D 23/40
XD

Full line **CATALOG #50**

RETURN TO
DESIGN DIV.
U.S. Patent Office
DEC 23 1958
Design Division

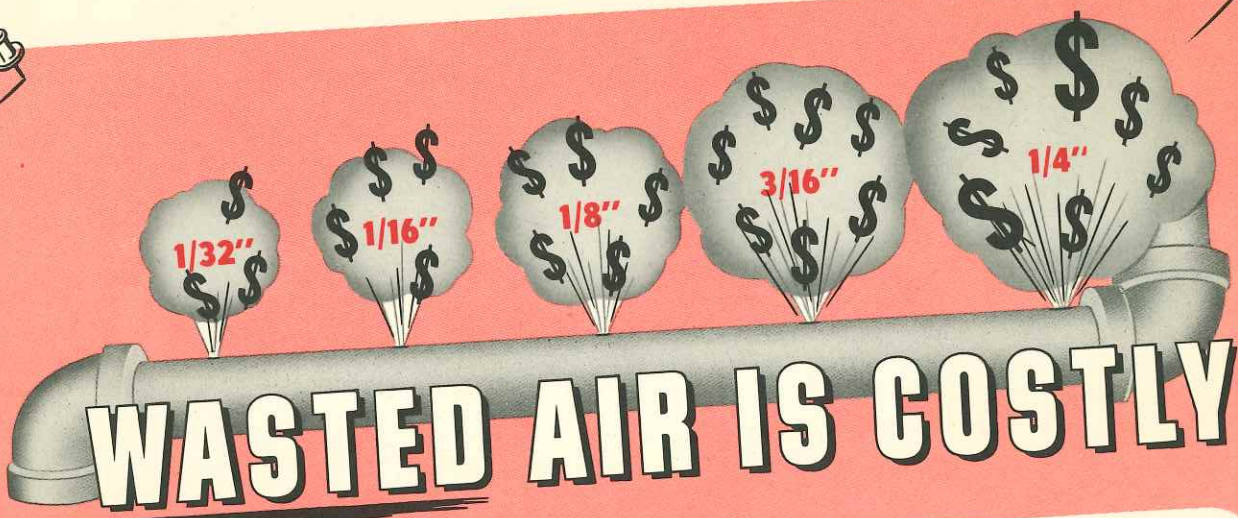
Schrader®

a division of **SCOVILL**

AIR CONTROL PRODUCTS

- *for Automating in-plant operations*
- *for Original Equipment on new products*

RETURN TO
DESIGN DIV.
U.S. Patent Office
DEC 23 1958
Design Division



WASTED AIR IS COSTLY

EQUIVALENT LEAK (Dia. in inches)	1/32"	1/16"	1/8"	3/16"	1/4"
AIR WASTED PER MONTH (Cubic ft. of free air based on 100 p.s.i.g. and 100% orifice coefficient)	73,440	293,760	1,123,200	2,592,000	4,449,600
SAVINGS POSSIBLE PER MO. (Based on 10¢ per 1000 cu. ft.)	$7.34	$29.38	$112.32	$259.20	$444.96

put it back to work with

Schrader®
a division of SCOVILL

The complete line of Air Control products. Everything you need for every kind of air control system.

U. S. Patent Office
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Design Division

MAKE YOUR

Schrader®

CATALOG

AN AIR EQUIPMENT "FACT FINDER"

The most COMPLETE source of AIR CONTROL EQUIPMENT information

PRODUCTS—Related products are conveniently grouped in sections so that you can most easily select the type of air control unit you need.

REFERENCE—Drawings, charts and photographs are designed and located for easy reference.

DIMENSIONS—All the dimensions you will normally require for design and installation are clearly shown on drawings or indicated in charts in readily accessible positions.

REPLACEMENT—Parts for replacement are clearly outlined in drawings and charts; extra ordering information makes for even easier procurement of parts.

INDEXING—A numerical product index will help you in selecting and ordering Schrader products. Cross-indexing is used only for your additional convenience.

SERVICE—Back of this COMPLETE air equipment catalog Schrader's engineering and sales service stands ready to serve and inform you at all times.

RETURN TO
DESIGN DIV.

CONTENTS

AIR CYLINDERS
- Clamping Type ..... Pages 60, 61
- Double Acting ..... Pages 54 to 57
- Single Acting ..... Pages 52, 53, 58, 61
- Accessories ..... Page 59
- Replacement Parts ..... Pages 78, 79

AIR PRESSES ..... Pages 74, 75

AIR VALVES—2, 3, 4-WAY
- Angle Lever Type ..... Page 25
- Check Valves ..... Page 45
- Foot Lever Type ..... Pages 28, 33, 35, 37
- Hand Lever Type ..... Pages 26, 27, 28, 33, 36, 37
- Pilot Operated ..... Pages 29, 39 to 42
- Quick Exhaust Valves ..... Page 44
- Roller Lever Type ..... Page 24
- Solenoid Valves ..... Pages 30 to 32
- Miscellaneous ..... Pages 34, 46, 48
- Replacement Parts ..... Pages 80 to 82

BLOW GUNS
- Brass Type ..... Pages 7, 9
- Steel Type ..... Page 6
- Interchangeable Noses ..... Page 9

COUPLERS
- Hevi-Duty Type ..... Page 10
- Standard Type ..... Page 11

FILTERS ..... Pages 19 to 22

FLOW CONTROL VALVES ..... Page 43

HOSE AND ACCESSORIES
- Air Hose ..... Page 13
- Ferrules and Machines ..... Pages 14, 15, 18
- Hose Couplings and Adapters ..... Page 12
- Hose Reels ..... Pages 16, 17

HYDRAULIC GAUGES ..... Pages 76, 77

LUBRICATORS ..... Pages 19 to 22

MACHINE CONTROL SETS
- Ejection Sets ..... Pages 62 to 65
- Press Controls ..... Pages 62, 66 to 69
- Shear Controls ..... Pages 70, 71

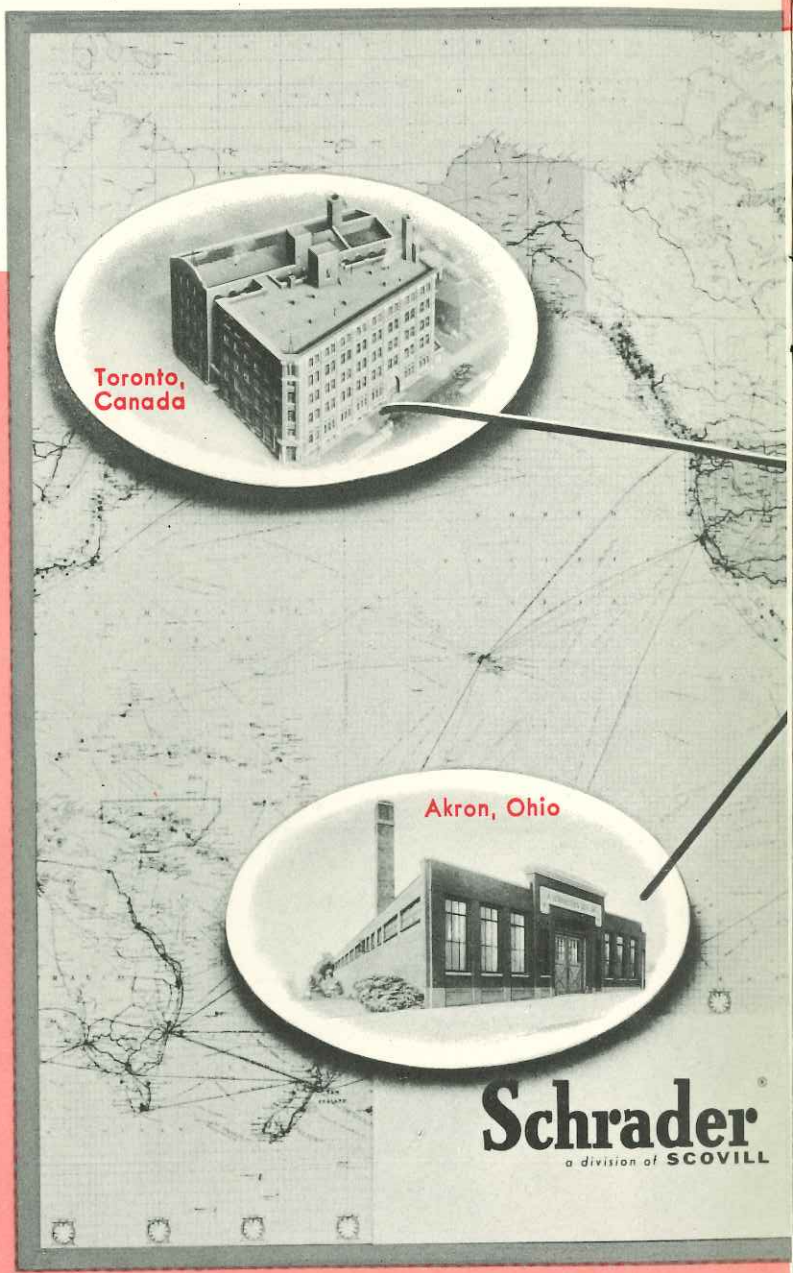
REGULATORS ..... Pages 19 to 21

ROTATING JOINTS ..... Page 47

TERMS, CONDITIONS ..... Page 85

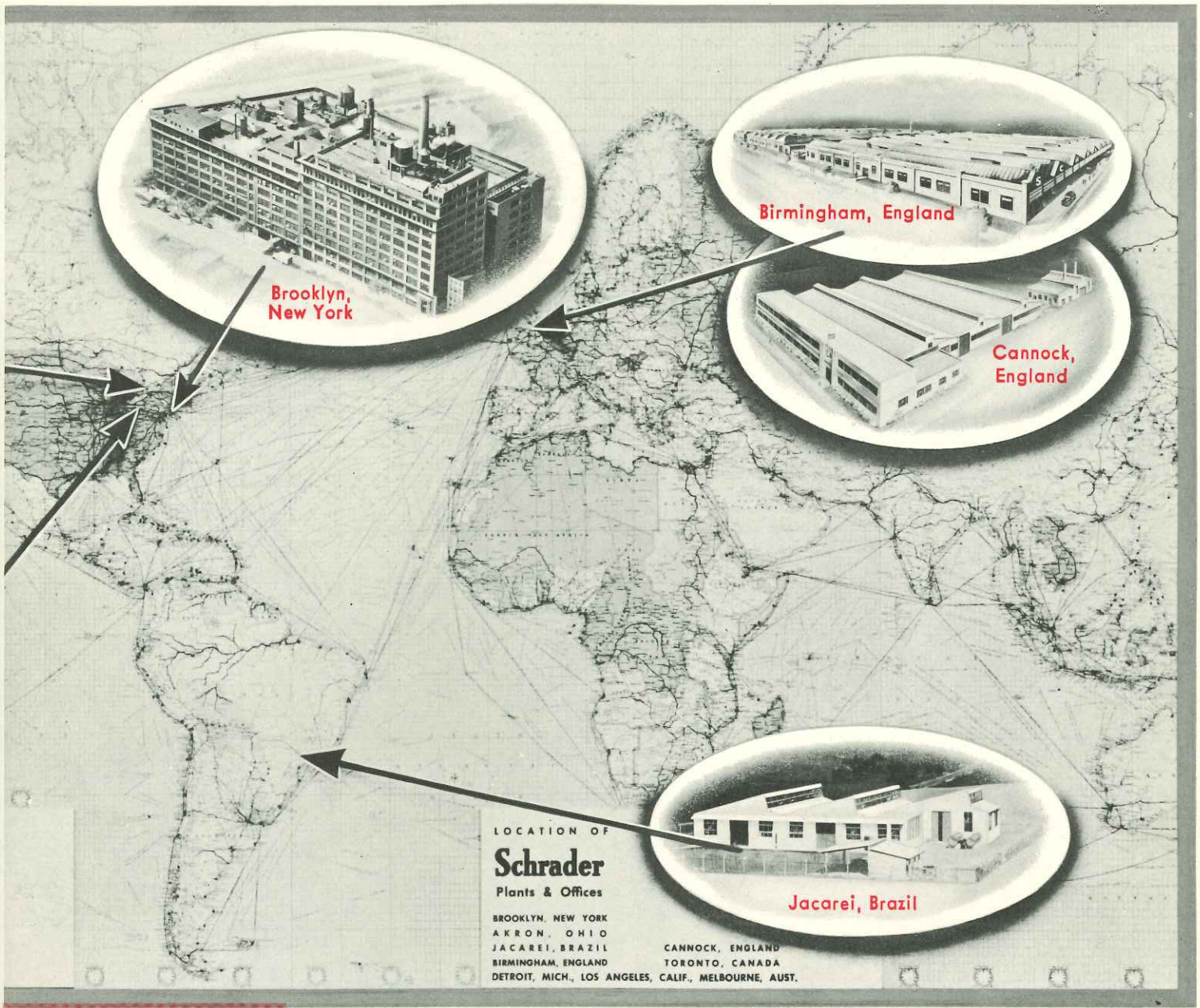
NUMERICAL INDEX ..... Pages 83, 84

AIR
CONTROL
Since
1844



Some facts about this famous trademark

Schrader®
a division of **SCOVILL**



FIRST—IN 1844

The company was founded in 1844 to design and build diving apparatus upon which men, to this day, entrust their lives.

THEN—IN 1894

Knowledge of compressed air again brought Schrader into the foreground of industrial progress; this time to develop a tire valve which greatly accelerated the progress of an infant automobile industry.

THEN—IN 1914

Quantity production of valves was required to match the phenomenal growth of the car and rubber industries in the 1914-1929 period. During this period Schrader multiplied its plant and production facilities. The company met the quantity requirements with the same unvarying high quality and precision.

AGAIN IN 1941

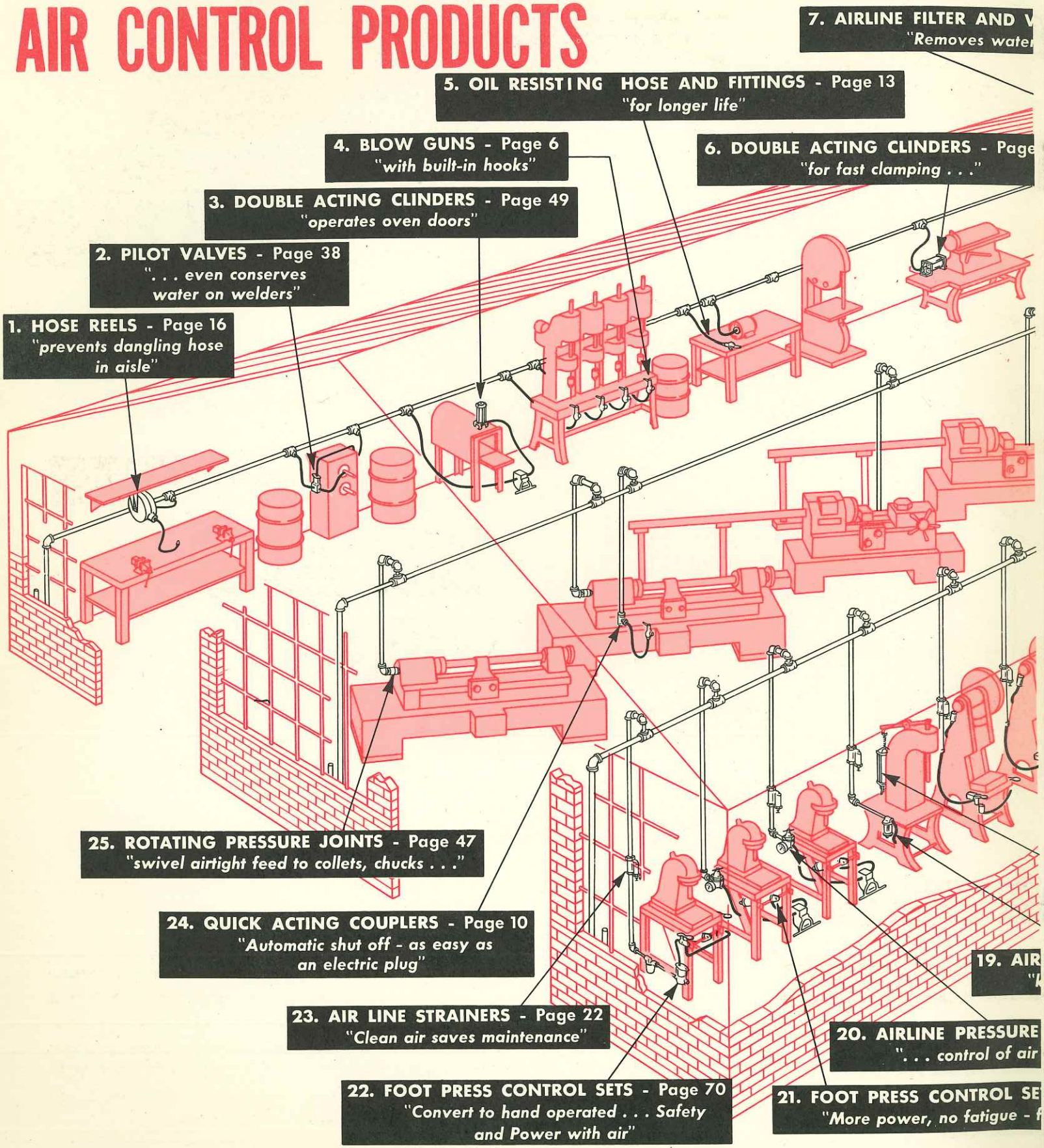
World War II placed unusual demands on Schrader to supply tire valves, oxygen fittings, life vest, boat and pontoon valves, for the greatest mechanized war in history. These demands were met—and more. For this time the Industrial Products Section helped speed up war production with an unprecedented output of precision Air Control Products.

AND NOW—
THE PRESENT

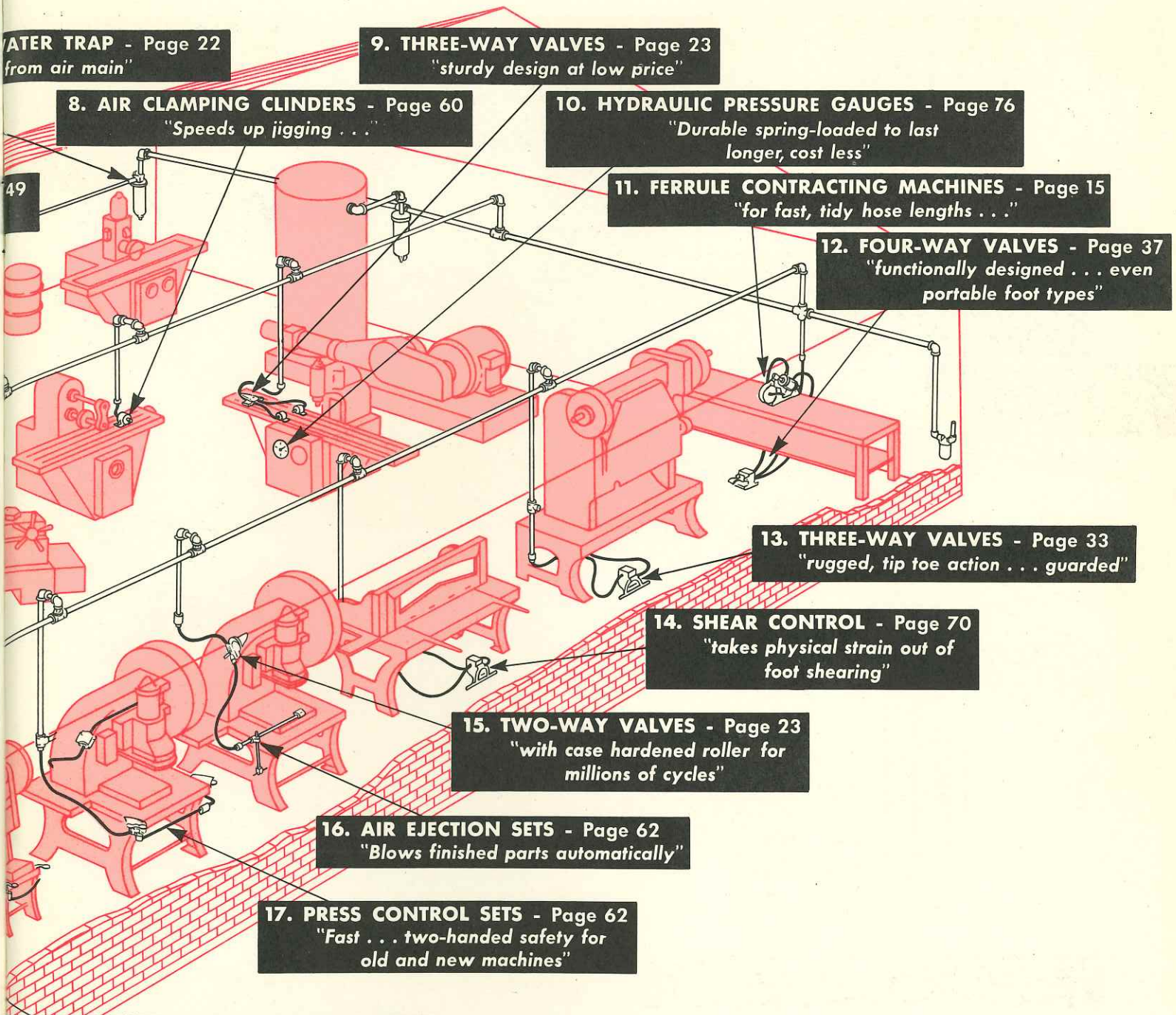
Today, Air Control Products are being turned out in mass production quantities for scores of industries. New air products are constantly being designed as acceptance of Schrader steadily grows. Schrader brings to this growing market the same "know-how" and dependability that won leadership in the air control field over a century ago.

Schrader *offers One Source for all your*

AIR CONTROL PRODUCTS


7. AIRLINE FILTER AND V
"Removes wate
5. OIL RESISTING HOSE AND FITTINGS - Page 13
"for longer life"
4. BLOW GUNS - Page 6
"with built-in hooks"
6. DOUBLE ACTING CLINDERS - Page
"for fast clamping . . ."
3. DOUBLE ACTING CLINDERS - Page 49
"operates oven doors"
2. PILOT VALVES - Page 38
". . . even conserves water on welders"
1. HOSE REELS - Page 16
"prevents dangling hose in aisle"
25. ROTATING PRESSURE JOINTS - Page 47
"swivel airtight feed to collets, chucks . . ."
24. QUICK ACTING COUPLERS - Page 10
"Automatic shut off - as easy as an electric plug"
19. AIR
23. AIR LINE STRAINERS - Page 22
"Clean air saves maintenance"
20. AIRLINE PRESSURE
". . . control of air
22. FOOT PRESS CONTROL SETS - Page 70
"Convert to hand operated . . . Safety and Power with air"
21. FOOT PRESS CONTROL SE
"More power, no fatigue -

SELECT YOUR NEEDS FROM THE BROAD LINE OF IND



ATER TRAP - Page 22
from air main"

9. THREE-WAY VALVES - Page 23
"sturdy design at low price"

8. AIR CLAMPING CLINDERS - Page 60
"Speeds up jigging . . ."

10. HYDRAULIC PRESSURE GAUGES - Page 76
"Durable spring-loaded to last longer, cost less"

49

11. FERRULE CONTRACTING MACHINES - Page 15
"for fast, tidy hose lengths . . ."

12. FOUR-WAY VALVES - Page 37
"functionally designed . . . even portable foot types"

13. THREE-WAY VALVES - Page 33
"rugged, tip toe action . . . guarded"

14. SHEAR CONTROL - Page 70
"takes physical strain out of foot shearing"

15. TWO-WAY VALVES - Page 23
"with case hardened roller for millions of cycles"

16. AIR EJECTION SETS - Page 62
"Blows finished parts automatically"

17. PRESS CONTROL SETS - Page 62
"Fast . . . two-handed safety for old and new machines"

18. SINGLE ACTING CYLINDERS - Page 49
"Inexpensive power . . . never gets tired"

LINE LUBRICATORS - Page 19
eps tools in top condition . . ."

REGULATORS - Page 19
ressure to suit the job"

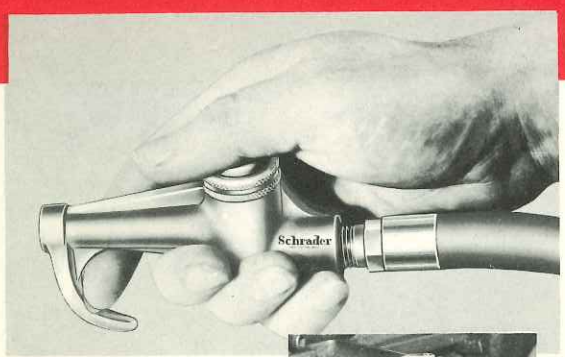
5 - Page 70
ster acting"

Just a Bird's Eye View

To give you a visual idea of a few of the hundreds of Schrader Industrial Air-Control Products, our artist has set up some of the more familiar Schrader products in a mythical plant setting. This will give you an idea of the "one-source" importance and value of the Schrader line. No longer must you look "all over the lot" for the complete solution to your specific air control problems. When you call on us for one air product, you have ready access to the more than 500 other air control products listed in this catalog.

USTRIAL AIR CONTROL EQUIPMENT IN THIS CATALOG

Drop Forged Stainless Steel Blow Gun



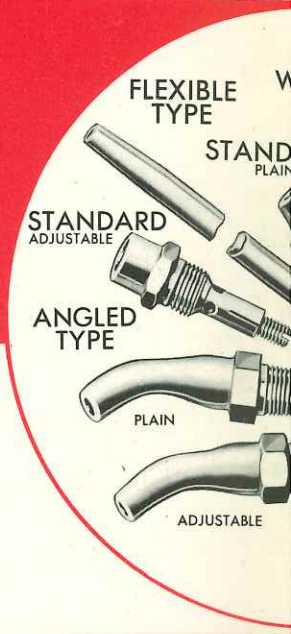
Keep a number of these drop forged blow guns on hand for numerous shop applications. The convenient hang-up hook keeps gun within easy reach, out of the operator's way, and promotes "good housekeeping."

Features ● **Handy Hang-up Hook** ● **Shielded Operating Button** ● **Comfortable Grip** ● **Countersunk Nose** ● **Protective Hand Guard** ● **Withstands Hard Use** ● **Long Life** ● **Simplicity of Working Parts.**

This stainless steel blow gun is the most durable of the Schrader line. Designed to stand up under hard, steady use it is practically indestructible. The stainless steel construction increases corrosion resistance; gives you a positive guarantee of longer, trouble-free service.

Air flow capacity of blow guns without noses is 25 cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

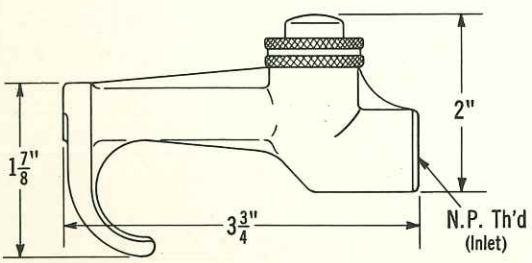
A feature you
CHANGE NOSES
—(See page 9)



INTERCHANGEABLE NOSES

With Standard Countersunk Nose

No. 9326 —1/4 N. P. Th'd.
No. 9326A—3/8 N. P. Th'd.
Overall length—3 3/4"



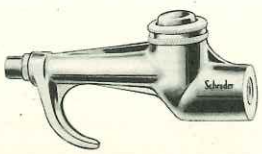
With 45° Angle Nose

This blow gun has an angular nose for getting around obstacles, into corners and other hard-to-get-at places.

No. 1929 —1/4 N. P. Th'd.
No. 1929A—3/8 N. P. Th'd.
Overall length—5 7/32"

With Adjustable Nose For Greater Safety

This blow gun has an adjustable nose to give you the desired flow of air and to increase safety and save air.



No. 2282 —1/4 N. P. Th'd.
No. 2282A—3/8 N. P. Th'd.
Overall length—4 3/16"

Blow Guns — Less Nose

No. 9326 -197—1/4 N. P. Th'd.
No. 9326A-197—3/8 N. P. Th'd.

REPLACEMENT PARTS SHOWN ON PAGE 9

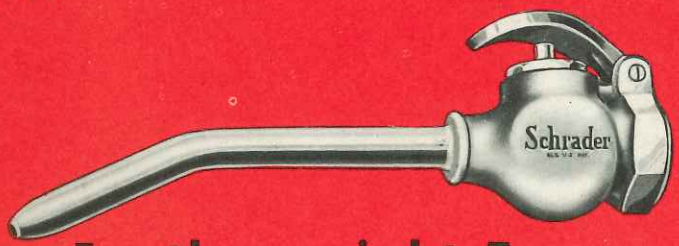
BLOW GUNS

Schrader
REG. U.S. PAT. OFF.

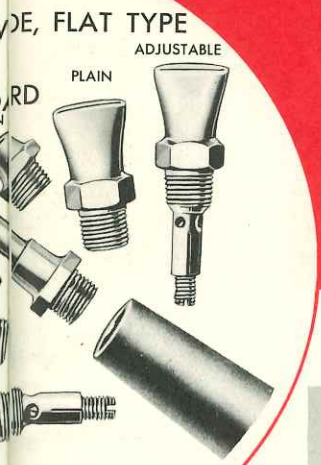
will appreciate.
TO FIT THE JOB

Button Type

Lever Type



Featherweight Type

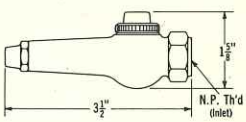


Various noses for special uses to meet most precise requirements.
(See page 9)

Button Type Blow Gun

FORGED BRASS

Features **● Forged Brass Body ● Variety of Interchangeable Noses ● Easy Grip ● Easily Maintained.**

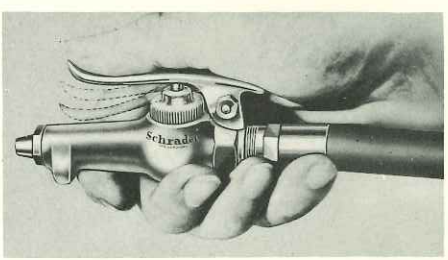


This sturdy all-purpose forged brass blow gun operates at the press of a button. A popular all-round blow gun that has proved indispensable to hundreds of thousands of users.

Air flow capacity 25 cu. ft.*

No. 7184C—1/4 N. P. Th'd. . **No. 7184AC**—3/8 N. P. Th'd

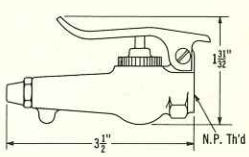
[For extremely low pressure and partial vacuum use, specify **No. 1638C**—1/4 N. P. Th'd. at inlet, with standard nose.]



Lever Type Blow Gun

FORGED BRASS

Features **● Forged Brass Body ● Easily controlled Air Blast ● Handy hang-up arrangement ● Steel Lever ● Comfortable Grip ● Easily Maintained.**



A controlled flow of air, from a puff to a full blast. The more the lever is depressed, the greater the air flow with this handy gun. Its design and lever position provides a natural grip for thumb control of air flow.

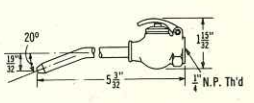
Air flow capacity 25 cu. ft.*

No. 8785W—1/4 N.P. Th'd. **No. 8785AW**—3/8 N.P. Th'd.

Featherweight Blow Gun

FORGED BRASS

Features **● Brass Body ● Light Weight ● Angular Nozzle.**



This small, compact blow gun is convenient to handle and will serve a wide variety of industrial purposes. Order replacement parts by Schrader number as shown in the drawing on Page 9.

Air flow capacity 14 cu. ft.*

No. 1755W—1/4 N. P. Th'd.

*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

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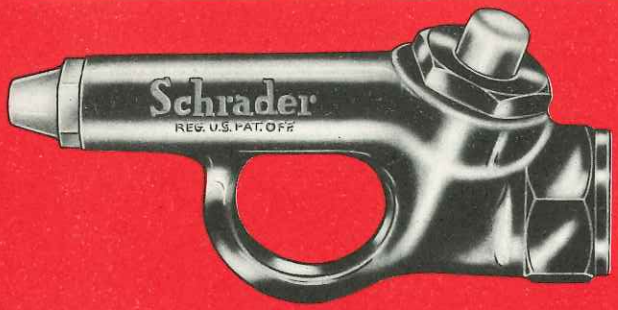
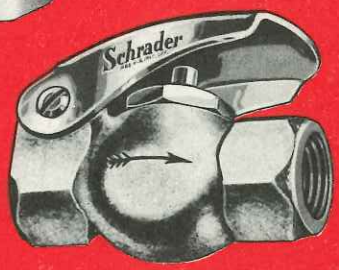
BLOW GUNS

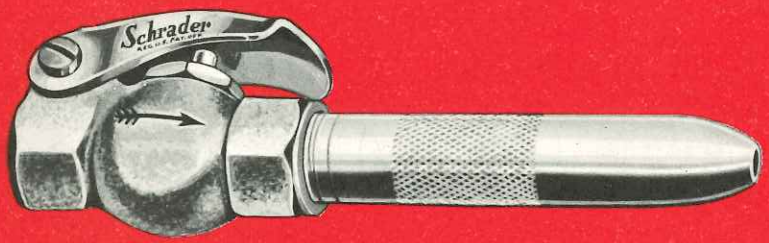
Right-Angle Blow Valve



Special Plastic Blow Gun



Hand-Operated Utility Blow Valve



Heavy-Duty Blow Gun

Right-Angle Blow Valve

This brass Right-Angle Valve can be mounted on a bench to provide a fixed focus blast of air by manual actuation, eliminating the need to pick up a blow gun for each operation. It can also be attached to a hose to serve as a handy right-angle blow gun. See page 34 for replacement parts and dimensions.

No. 7796—1/4 N.P. Th'd. at inlet and outlet. Air flow capacity 35 cu. ft.*

Heavy-Duty Blow Gun

This brass blow gun is ideal for use where a greater air flow capacity is required. It is equipped with a heavy steel nozzle which assures long life under hardest work conditions. See No. 8936W valve on page 34 for replacement parts and dimensions.

No. 8953W—3/8 N.P. Th'd. at inlet. Air flow capacity 50 cu. ft.* Overall length —5 1/2".

Hand-Operated Utility Blow Valve

If a blow gun of greater air flow capacity is needed this valve can be fitted with an extension of pipe, up to any required length, for reaching into out-of-the-way places such as around looms and mold cavities. See page 34 for replacement parts and dimensions.

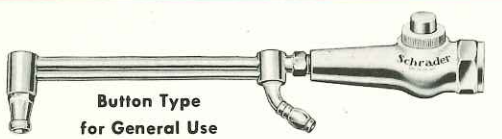
No. 8936W—3/8 N.P. Th'd. at inlet and outlet. Air flow capacity 90 cu. ft.*

Special Plastic Blow Gun

This new plastic Schrader Blow Gun has many features and special uses not found in brass or steel blow guns. The tough, durable one piece moulded plastic body contains only one metal part. This makes it an ideal blow gun for use in arsenals, chemical plants and laboratories where the danger of explosions caused by sparks is prevalent. The insulation qualities of the all plastic body reduces the danger of electric shocks when used to clean electric motors, generators and control panels. The comfortable grip, finger guard and light weight makes it easy to hold and use for long periods of time . . . will not mar or scratch high varnish or metal finishes. It is highly resistant to caustic corrosion when used with liquids or gases of corrosive nature. The finger guard and handy hang-up ring protects operators finger and keeps the gun out of the way when not in use.

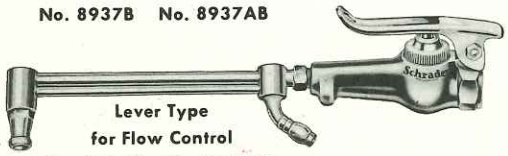
No. 560 Plastic Blow Gun with button control—has 1/4" N. P. Thd.

SPRAY GUNS—for light non-congealing liquids



Button Type for General Use

No. 8937B No. 8937AB



Lever Type for Flow Control

No. 9014B No. 9014AB

Your air line can be converted into economical spray equipment by use of the Schrader line of spray guns. Water, gasoline, kerosene, soap solutions and other non-congealing liquids may be used for spraying molds, tools, fabrics and for other applications.

No. 8937B—1/4 N. P. Th'd. at air inlet. Serrated shank for 1/4" I. D. Hose at liquid inlet.

No. 8937AB—Same but has 3/8 N. P. Th'd. at air inlet.

No. 9014B—1/4 N. P. Th'd. at air inlet. Serrated shank for 1/4" I. D. Hose at liquid inlet.

No. 9014AB—Same but has 3/8 N. P. Th'd. at air inlet.

No. 8937B-12—Spray Nozzle only.

Replacement parts for **No. 8937B-12** Spray Nozzle.

No. 8937B-9 Nose. No. 8937-7 Felt Washer. No. 7538-11 Check.

*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

BLOW GUN NOSES

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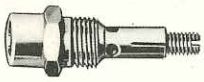
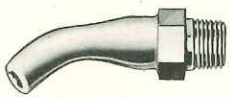


1350-198

1353-198

1351-198

7184-8

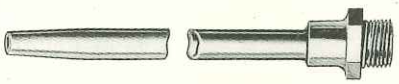


8971

1895

8972

8973



8726

DIMENSIONS SHOWN BELOW

ADJUSTABLE NOSES

A needle valve when set with a screw driver gives the desired flow of air in this convenient, adjustable type of nose. Just the right blast of air required for the job is the safest and most economical. They are interchangeable on the No. 9326 type steel guns as well as the No. 7184 and 8785 type brass guns shown on Pages 6 and 7.

No. 1350–198. Standard type.

No. 1353–198. Flat flared type.

No. 1351–198. Short 45° angle type.

NON-ADJUSTABLE NOSES

This line of interchangeable noses make Schrader Blow Guns the most versatile and simple to use. Keep a variety of these noses on hand to meet your varying needs. They are interchangeable on the No. 9326 type steel guns as well as the No. 7184 and 8785 type brass guns shown on pages 6 and 7.

No. 7184–8—Standard brass type for general use. Available in steel **No. 9661–8,** or in brass not drilled **No. 8724.**

No. 8971—Short 45° angle type for clearing blind holes.

No. 1895—Straight type for general use.

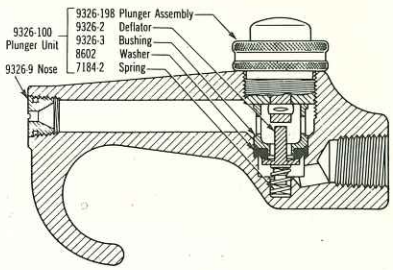
No. 8972—Rounded type for better seating in tubing and piping.

No. 8973—Flat flared type for spreading the air blast over a wide area.

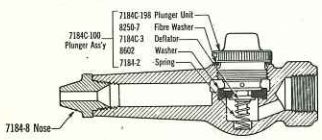
No. 8726—Long flexible copper nozzle type for reaching out-of-the-way places.

BLOW GUN REPLACEMENT PARTS

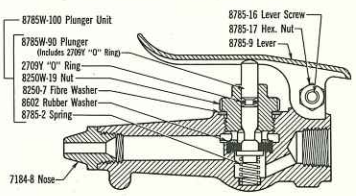
STAINLESS STEEL



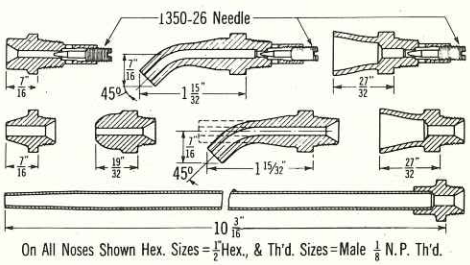
BUTTON TYPE



LEVER TYPE

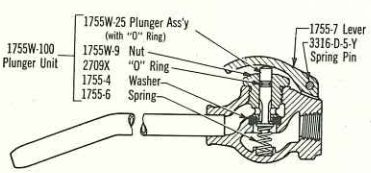


NOSES

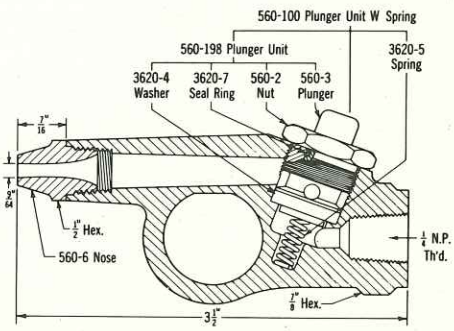


On All Noses Shown Hex. Sizes = $\frac{1}{2}$" Hex., & Th'd. Sizes = Male $\frac{1}{8}$ N.P. Th'd.

FEATHERWEIGHT TYPE



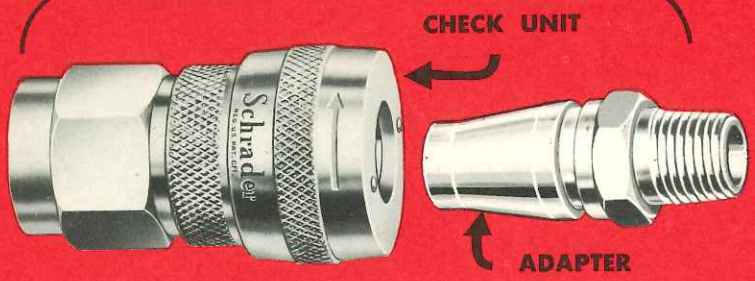
PLASTIC TYPE



Schrader
REG. U.S. PAT. OFF.

QUICK-ACTING COUPLERS

THE COMPLETE COUPLER



HEAVY DUTY TYPE

WITH SOLID STEEL COLLAR

QUICK IN

One simple push locks in adapter, starts air flowing automatically.

You can have compressed air at your fingertips at all times with Schrader quick-connecting air couplers conveniently placed along walls, benches, or columns. Plug in for air as easily as you would for electricity. Particularly designed for heavy duty air tools such as chipping hammers and grinders.

Hevi-Duty air line couplers consist of a check unit and an adapter which swivels to eliminate kinking of hose. The Schrader swivel adapter snaps into the check unit fitted in the main air line with a quick push that opens line pressure, locks to make an air-tight connection. It requires only a positive manual twist of the check unit sleeve to uncouple.

Will not disconnect accidentally. When you use Schrader couplers for outlets in your shop you have air where you want it; when you want it—more safely.

When ordering specify numbers of the check unit and the adapter of desired thread size. If more than one hose length or piece of equipment is used be sure to order extra adapters of the proper size.

Air flow capacity approximately 100 cu. ft.*

CHECK UNITS

FEMALE

Schrader No.	Inlet (Female)	Overall Length	Max. Dia.
1054-12	¼ N. P. Th'd.	2 3/16"	1½"
1095-12	⅜ N. P. Th'd.	2 3/16"	1½"
1461-12	½ N. P. Th'd.	2½"	1½"
1462-12	¾ N. P. Th'd.	2 9/16"	1½"

MALE

Schrader No.	Inlet (Male)	Overall Length	Max. Dia.
3080-12	⅜ N. P. Th'd.	2 5/16"	1½"
3081-12	½ N. P. Th'd.	2¾"	1½"

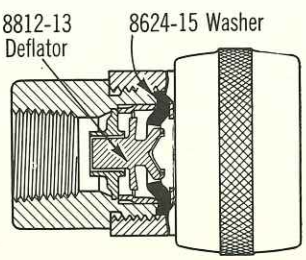
ADAPTERS

Interchangeable with Heavy Duty check units only.

Male Threaded	
Schrader No.	N. P. Th'd.
8624-11	¼
1095-11	⅜
1461-11	½
1462-11	¾

Female Threaded	
Schrader No.	N. P. Th'd.
1261-11	¼
1096-11	⅜

Serrated Shank	
Schrader No.	For Hose I.D.
2123-11	¼"
1097-11	⅜"
1098-11	½"



REPLACEMENT PARTS– Order replacement parts by the Schrader number shown on the drawing at right.

*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

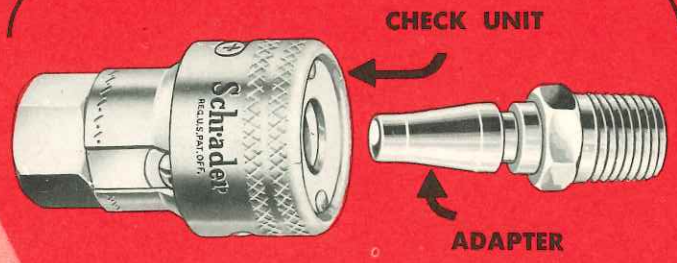
QUICK-ACTING COUPLERS

Schrader
REG. U.S. PAT. OFF.

QUICK OUT

A slight twist disconnects adapter. Air shuts off immediately and automatically.

THE COMPLETE COUPLER



STANDARD TYPE COUPLERS

Schrader Standard air line couplers are designed for light applications such as small air driven tools. They include the fast acting features of the Schrader Hevi-Duty series of couplers and work on the same basic principle. A short "whip end" length of hose used between coupler and pneumatic tool, facilitates tool changes and eliminates excessive vibration of the check unit.

Air flow capacity approximately 40 cu. ft.*

Check Units

SWIVEL TYPE—This check unit is fully automatic—positively shuts off air when uncoupled—opens line pressure when adapter is plugged in. Hose kinks are eliminated because the adapter swivels in the check unit when connected.

Schrader No. 8052-12—¼ N.P. Female Th'd. Overall length—1⅞", Max. dia. 1⅛".
For low pressure and partial vacuum use, specify:
No 1385-12—¼ N.P. Female Th'd. Overall length—1⅞", Max. dia. 1⅛".

Schrader No. 3060-12—¼ N.P. Male Th'd. Overall length—2⅛"
Schrader No. 3061-12—⅜ N.P. Male Th'd. Overall length—2⅛"

NON-SWIVEL TYPE—In this type the check unit sleeve is designed to prevent the adapter from swivelling, otherwise the construction is the same as the swivel type. This feature makes it possible to uncouple by simply twisting the hose.

Schrader No. 8050-12—¼ N.P. Female Th'd. Overall length 2"
For low pressure and partial vacuum use, specify:
No. 1810-12—¼ N. P. Female Th'd. Overall length 2"

REPLACEMENT PARTS– Order replacement parts by the Schrader number shown on the drawing at right.

*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

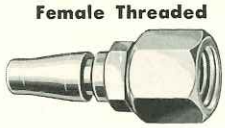
Standard Adapters

Interchangeable in standard check units on this page only. Be sure to order an adapter for each piece of hose or tool to be coupled.

Male Threaded

Schrader No.	N. P. Th'd.
8051-11	⅛
8050-11	¼

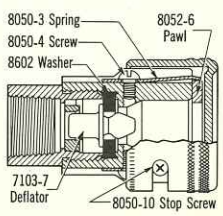
Female Threaded



Schrader No.	N. P. Th'd.
2047	⅛
8278-11	¼

Serrated Shank

Schrader No.	For Hose I. D.
8787-11	¼"
8788-11	⅜"

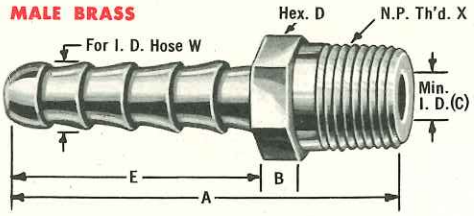


Schrader — REG. U.S. PAT. OFF

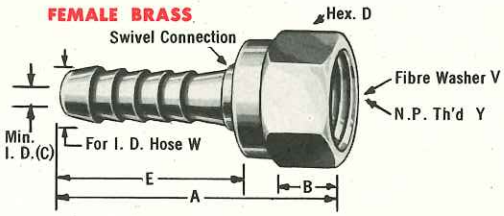
HOSE COUPLINGS AND ADAPTERS

Make your air hose connections professional looking and airtight with Schrader Threaded Hose Fittings. It is important to watch for matching threads when planning your hook-up. Select the type and size fittings you require and order by corresponding Schrader number.

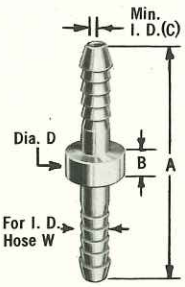
MALE BRASS



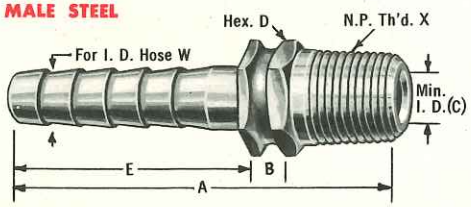
FEMALE BRASS



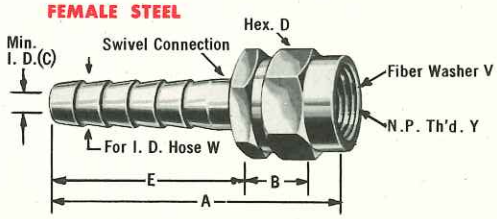
HOSE REPAIR COUPLINGS



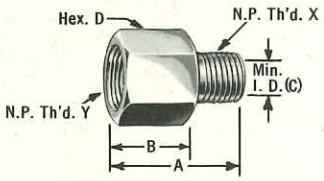
MALE STEEL



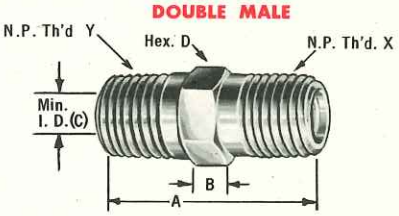
FEMALE STEEL



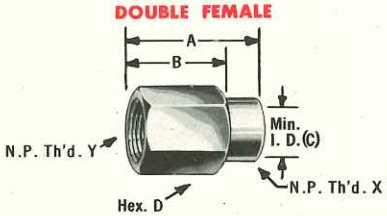
MALE - FEMALE



DOUBLE MALE



DOUBLE FEMALE



MALE THREADED COUPLINGS

Schrader No.		Hose W	N. P. Th'd.	DIMENSIONS (Inches)				
Steel	Brass	(In.)	X	A	B	C	D	E
	7943	3/16	1/8	1 9/16	3/8	5/32	7/16	7/8
	8948	3/16	1/4	1 9/16	1/4	5/32	9/16	7/8
	5617	1/4	1/8	1 9/16	3/8	5/32	7/16	7/8
	6363	1/4	1/4	1 3/4	7/32	5/32	9/16	1 1/16
	1710	1/4	3/8	2	7/32	5/32	11/16	1 1/16
	8095	5/16	1/8	2	3/16	5/32	9/16	1 5/16
	6520	5/16	1/8	1 13/16	1/4	5/32	7/16	1 1/8
	6362	5/16	1/4	1 3/4	7/32	5/32	9/16	1 1/16
	7771	3/8	1/8	1 3/4	1/4	1/4	9/16	1 1/16
	9634	3/8	1/4	2 5/16	1/4	9/32	9/16	1 5/8
	6361	3/8	1/4	1 3/4	7/32	9/32	9/16	1 1/16
	9134	3/8	3/8	2 1/2	1/4	9/32	11/16	1 5/8
	1711	1/2	1/4	2 11/16	1/4	9/32	7/8	1 5/8
	9633	1/2	1/4	2 5/16	1/4	11/32	9/16	1 5/8
	6360	1/2	1/4	1 3/4	7/32	11/32	9/16	1 1/16
	9133	1/2	3/8	2 1/2	1/4	11/32	11/16	1 5/8
	1712	1/2	1/2	2 11/16	1/4	3/16	7/8	1 5/8
1714		3/8	1/4	2 11/16	5/16	1/4	9/16	1 3/4
9662		3/8	3/8	2 7/8	5/16	1/4	3/4	1 3/4
1715		3/8	1/2	2 15/16	5/16	1/4	7/8	1 3/4
1211		1/2	1/4	2 11/16	5/16	3/16	3/4	1 3/4
9663		1/2	3/8	2 7/8	5/16	3/16	3/4	1 3/4
1716		1/2	1/2	2 15/16	5/16	3/16	7/8	1 3/4
1717		1/2	3/4	2 13/16	5/16	3/16	1 1/16	1 3/4
1718		3/4	1/2	3	5/16	1/2	1	1 3/4
1719		3/4	3/4	2 15/16	5/16	5/8	1 1/16	1 3/4

FEMALE THREADED COUPLINGS

Schrader No.		Hose W	N. P. Th'd.	DIMENSIONS (Inches)					Fibre Washer
Steel	Brass	(In.)	Y	A	B	C	D	E	V
	1105	1/4	1/8	1 7/16	9/32	5/32	5/8	1	1105-2
	7643	1/4	1/4	1 1/2	1 1/32	5/32	5/8	1	7642-2
	7642	1/4	1/4	1 1/2	1 1/32	7/32	5/8	1	7642-2
	7641	1/4	1/4	1 1/2	9/32	1/4	1 1/16	1	7640-2
	7640	1/4	1/4	1 1/2	9/32	1/4	1 1/16	1	7640-2
1692		1/4	3/8	2 1/4	3/8	5/32	7/8	1 5/16	1692-2
1693		3/8	3/8	2 11/16	3/8	1/4	7/8	1 3/4	1692-2
1694		3/8	1/2	2 3/4	3/8	1/4	1 1/16	1 3/4	1694-2
1695		1/2	3/8	3 5/16	7/16	5/16	1 1/16	2 1/4	1694-2
1696		1/2	1/2	3 1/4	3/8	5/16	1 1/16	2 1/4	1694-2
1697		1/2	3/4	3 1/4	3/8	5/16	1 1/4	2 1/4	1697-2
1698		3/4	1/2	3 1/4	7/16	1/2	1 1/4	2 1/4	1697-2
1699		3/4	3/4	3 1/4	7/16	1/2	1 1/4	2 1/4	1697-2

SPECIAL BRASS—METAL TO METAL

Schrader Number	Hose W (In.)	N. P. Th'd. Y	DIMENSIONS (Inches)				
			A	B	C	D	E
3495	3/16	1/4	1 15/32	9/16	1/8	5/8	7/8
3496	1/4	1/4	1 15/32	9/16	5/32	5/8	7/8
3497	3/8	3/8	2 1/32	21/32	9/32	3/4	1 11/32
3498	1/2	1/2	2 1/4	13/16	3/8	15/16	1 13/32

ADAPTERS—MALE-FEMALE

Schrader No.		N. P. Th'd.		DIMENSIONS (Inches)			
Steel	Brass	X	Y	A	B	C	D
	8205	1/8	1/4	1 1/8	5/8	3/16	5/8
	1223-13	1/4	1/8	9/16	1/8	7/16	9/16
	8207	1/4	3/8	1 5/16	3/4	5/16	7/8
	8206	3/8	1/4	13/16	3/4	5/16	11/16
	1688	3/8	1/2	1 1/2	13/16	5/16	1
	1689	1/2	3/8	1 1/16	3/16	9/16	1 5/16
1690		1/2	3/4	1 3/4	7/8	19/32	1 1/4
1691		3/4	1/2	7/8	1/4	23/32	1 3/16

ADAPTERS—DOUBLE MALE

Schrader No.		N. P. Th'd.		DIMENSIONS (Inches)			
Steel	Brass	X	Y	A	B	C	D
	1679	1/8	1/8	1 1/8	1/4	7/32	7/16
	1680	1/8	1/4	1 1/4	1/4	7/32	9/16
	8204	1/4	1/4	1 3/8	1/4	5/16	9/16
	7999	1/4	3/8	1 7/16	1/4	5/16	11/16
	1681	1/4	1/2	1 5/8	1/4	5/16	7/8
	1682	3/8	3/8	1 1/2	1/4	7/16	11/16
	1683	3/8	1/2	1 11/16	1/4	13/32	7/8
	1684	1/2	1/2	1 7/8	1/4	1/2	7/8
1685		1/2	3/4	2	1/4	19/32	1 1/16
1686		3/4	3/4	2	1/4	25/32	1 1/16
	806-1	3/4	3/4	1 27/32	5/16	47/64	1 1/16
	808-1	1	1	2 7/32	5/16	15/16	1 5/8

ADAPTERS—DOUBLE FEMALE

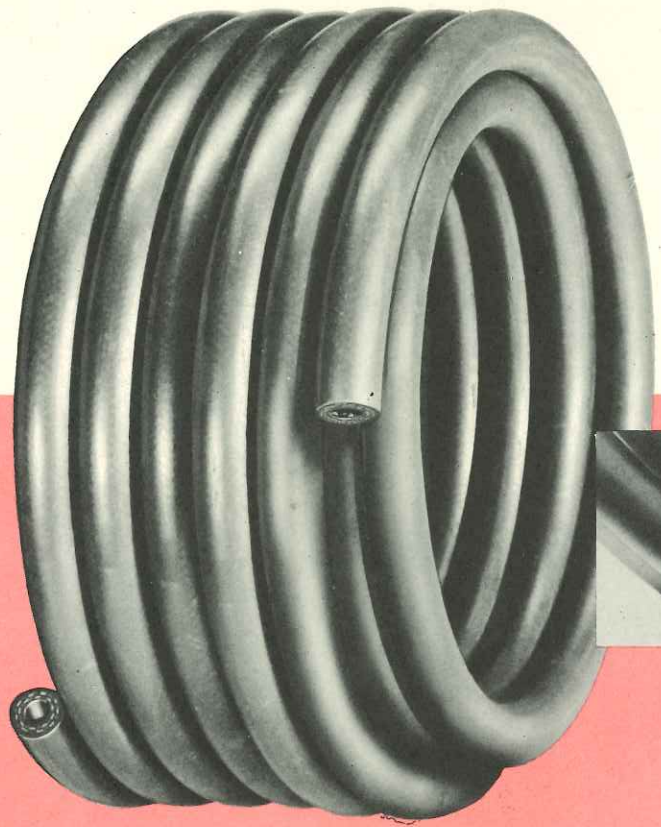
Schrader No.		N. P. Th'd.		DIMENSIONS (Inches)			
Steel	Brass	X	Y	A	B	C	D
	1701	1/8	1/8	3/4	3/4	11/32	1/2
	1702	1/8	1/4	1	1	11/32	5/8
	8208	1/4	1/4	1	1	7/16	5/8
	1703	1/4	3/8	1 1/4	27/32	7/16	13/16
	1704	1/4	1/2	1 5/8	31/32	7/16	1
	1705	3/8	3/8	1 1/8	1 3/8	9/16	13/16
	1706	3/8	1/2	1 5/8	31/32	9/16	1
	1707	1/2	1/2	1 5/16	1 5/16	23/32	1
1708		1/2	3/4	1 1/2	1 11/32	23/32	1 1/4
1709		3/4	3/4	1 3/8	1 3/8	15/16	1 1/4

HOSE REPAIR COUPLINGS

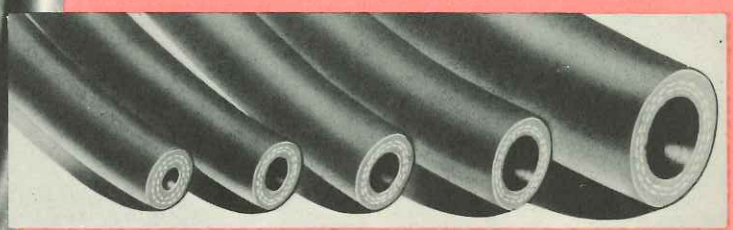
Damaged hose can be put back on the job in a few minutes with these double shank couplings. Just cut out the bad section and rejoin the hose in an air tight, permanent joint.

Schrader Number	DIMENSIONS (Inches)				
	W	A	B	C	D
7676	1/4	2 3/8	1/4	5/32	9/16
7675	5/16	2 3/8	1/4	7/32	9/16
7674	3/8	2 3/8	1/4	9/32	9/16
7673	1/2	2 3/8	1/4	11/32	9/16

Schrader
REG. U.S. PAT. OFF.



USE OIL-RESISTANT SYNTHETIC RUBBER HOSE CUT TO YOUR SPECIFICATIONS

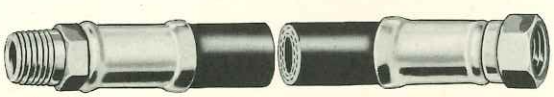


FIVE POPULAR HOSE SIZES

Clean, tough flexible hose will help give you a constant, trouble-free supply of compressed air. When you order quality hose cut to any desired length and fitted to specifications, your hook-up will be modern, neat-looking and efficient.

Schrader Number	9616	9587	9617	1501	3435
Inside Diameter	5/16"	1/4"	3/8"	1/2"	3/4"
Outside Diameter	17/32"	5/8"	47/64"	29/32"	1 1/4"

TAILORED HOSE LENGTHS



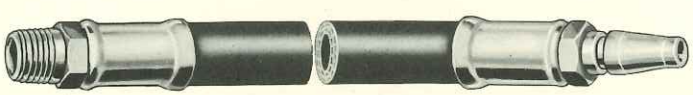
MALE FEMALE

BUY TAILORED HOSE LENGTHS

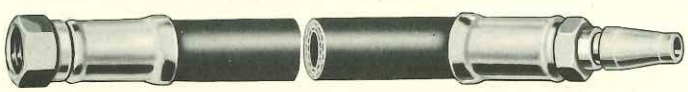
With any Desired Combination of Fittings

You can save installation time and money by specifying fittings on hose that will match your inlets, outlets and tools. Neat, properly applied connections can be obtained by selecting the correct size of fitting from the charts on page 12.

A nominal charge will be made for applying fittings to hose with ferrules. Hose cut and fitted to order is not subject to return for credit.



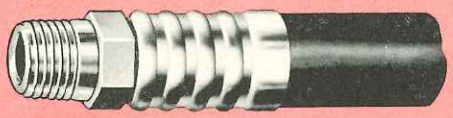
MALE COUPLER ADAPTER



FEMALE COUPLER ADAPTER

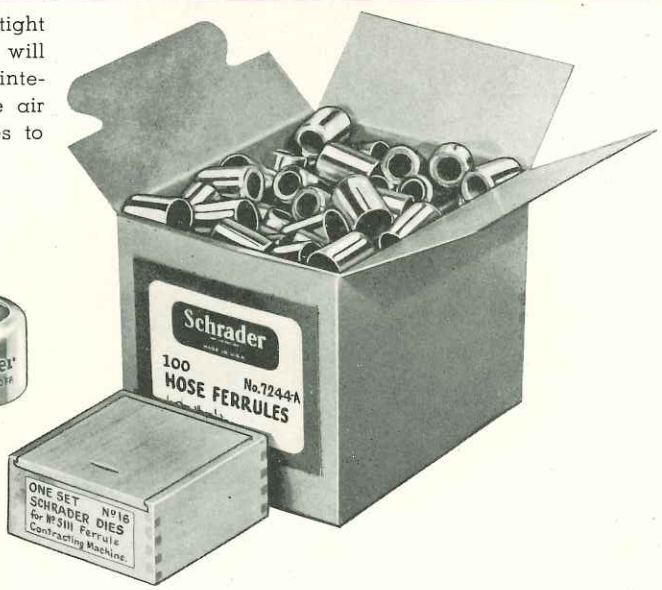
Connect Your Hose Fittings the Schrader Way

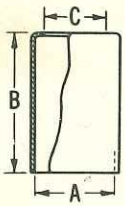
THE WRONG WAY



THE SCHRADER WAY

Schrader Ferrules properly applied will provide safe, air-tight connections. A supply of assorted sizes of these ferrules will simplify your installation problems and assure ready maintenance of air hose lines. The finished result is a positive air tight seal that will not pull or blow out; no sharp edges to catch, scratch or cut.





METAL THICKNESS: .015″ BRASS
Use Ferrule Contracting Machine No. 5111 or 1765A

Schrader Number	I.D. A (In.)	Length B (In.)	Perforation C (In.)	Schrader No. Contracting Die	
				Plain	Ribbed
625	.525	1/2	11/32	40	R-38
624	.500	1/2	11/32	41	R-39
769	.450	9/16	11/32	42	R-40
620	.410	1/2	17/64	44	R-42
619	.400	1/2	17/64	44	R-42
622	.380	1/2	17/64	45	R-43
833	.358	1/2	17/64	46	R-44

METAL THICKNESS: .019″ BRASS
Use Ferrule Contracting Machine No. 5111 or 1765A

Schrader Number	I.D. A (In.)	Length B (In.)	Perforation C (In.)	Schrader No. Contracting Die	
				Plain	Ribbed
H	1.300	43/64	1 1/8	9	R-7
I	1.275	21/32	7/8	10	R-8
J	1.250	21/32	7/8	11	R-9
K	1.225	41/64	7/8	12	R-10
L	1.200	41/64	7/8	13	R-11
M	1.175	5/8	7/8	14	R-12
N	1.150	5/8	7/8	15	R-13
O	1.125	5/8	7/8	16	R-14
P	1.100	39/64	7/8	17	R-15
Q	1.075	39/64	7/8	18	R-16
R	1.050	39/64	7/8	19	R-17
S	1.025	19/32	7/8	20	R-18
T	1.000	19/32	7/8	21	R-19
U	.975	37/64	3/4	22	R-20
V	.950	37/64	3/4	23	R-21
W	.925	37/64	3/4	24	R-22
X	.900	9/16	3/4	25	R-23
Y	.875	9/16	3/4	26	R-24

METAL THICKNESS: .019″ BRASS
Use Ferrule Contracting Machine No. 5111 or 1765A

Schrader Number	I.D. A (In.)	Length B (In.)	Perforation C (In.)	Schrader No. Contracting Die	
				Plain	Ribbed
Z	.850	9/16	11/16	27	R-25
AA	.825	35/64	9/16	28	R-26
BB	.800	35/64	9/16	29	R-27
CC	.775	17/32	1/2	30	R-28
DD	.750	17/32	1/2	31	R-29
EE	.725	17/32	1/2	32	R-30
FF	.700	33/64	1/2	33	R-31
GG	.675	33/64	1/2	34	R-32
HH	.650	1/2	1/2	35	R-33
II	.625	1/2	1/2	36	R-34
JJ	.600	1/2	1/2	37	R-35
KK	.575	31/64	15/32	38	R-36

METAL THICKNESS: .024″ BRASS
Use Ferrule Contracting Machine No. 5111 or 1765A

Schrader Number	I.D. A (In.)	Length B (In.)	Perforation C (In.)	Schrader No. Contracting Die	
				Plain	Ribbed
7513-A	1.312	31/32	1 1/8	8	R-6
7255-A	1.250	31/32	7/8	11	R-9
7291-A	1.218	31/32	7/8	12	R-10
7088-A	1.175	27/32	7/8	14	R-12
7104-A	1.150	27/32	7/8	15	R-13
5234-A	1.125	27/32	7/8	16	R-14
5027-A	1.100	27/32	7/8	17	R-15
7145-A	1.050	27/32	11/16	19	R-17
7114-A	1.025	27/32	11/16	20	R-18
5235-A	1.000	27/32	11/16	21	R-19
5028-A	.975	27/32	11/16	22	R-20
7242-A	.937	7/8	11/16	23	R-21
7113-A	.925	7/8	11/16	24	R-22

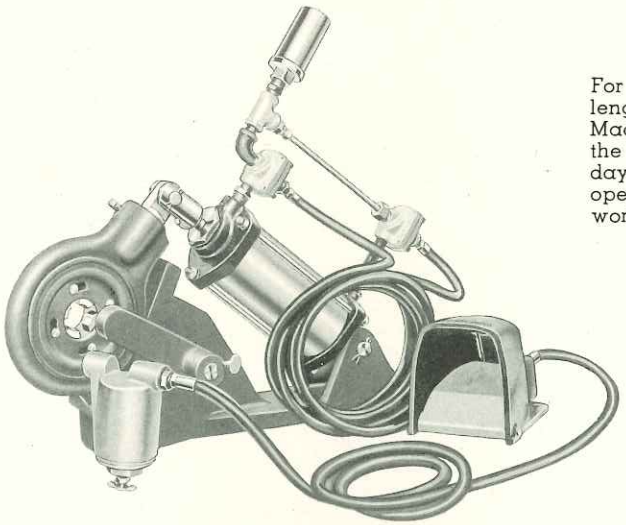
METAL THICKNESS: .024″ BRASS
Use Ferrule Contracting Machine No. 5111 or 1765A

Schrader Number	I.D. A (In.)	Length B (In.)	Perforation C (In.)	Schrader No. Contracting Die	
				Plain	Ribbed
5029	.900	7/8	3/4	25	R-23
7244-A	.875	7/8	11/16	26	R-24
7333	.812	1	5/8	28	R-26
7332	.781	1	5/8	30	R-28
7331	.750	1	5/8	31	R-29
7330	.718	1	5/8	32	R-30
7329	.687	1	1/2	34	R-32
7328	.656	1	7/16	35	R-33
7327	.625	1	7/16	36	R-34
7326	.593	1	7/16	37	R-35
7325	.562	1	7/16	38	R-36

METAL THICKNESS: .040″ BRASS
Use Ferrule Contracting Machine No. 5113

Schrader Number	I.D. A (In.)	Length B (In.)	Perforation C (In.)	Schrader No. Contracting Die	
				Plain	Ribbed
2948	1.625	1 1/4	1 1/4	LJ-7	LJR-5
6518	1.593	1 1/4	1 1/4	LJ-6	LJR-4
8149	1.562	1 1/8	1 1/8	LJ-4	LJR-2
7433	1.531	1 1/4	1 1/8	LJ-3	LJR-1
2949	1.468	1 1/4	1 1/8	L-2	LR-1
6972	1.350	1 1/4	1 1/8	L-7	LR-5
8148	1.312	1 1/8	7/8	L-8	LR-6
7267	1.312	15/16	7/8	L-8	LR-6
2950	1.312	1 1/4	1 1/8	L-8	LR-6
6507	1.250	1 1/4	7/8	L-11	LR-9
7396	1.200	1 1/4	1	L-13	LR-11
8147	1.125	1 1/8	7/8	L-16	LR-14

Air-Operated Ferrule Contracting Machine For Quantity Production

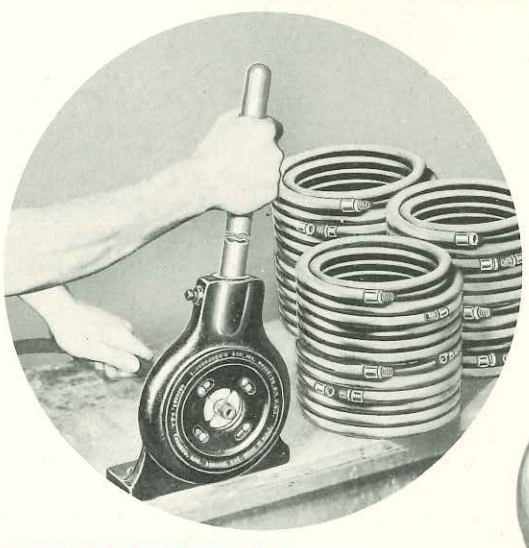


For production work, where quantities of uniform, fitted hose lengths are required, the Schrader Air-operated Contracting Machine will pay big dividends. Interchangeable dies enable the machine to be set up quickly. For fast effortless day-in and day-out production specify this air powered unit. The foot pedal operation permits the use of both hands to feed and remove the work, greatly reducing fatigue and speeding production.

No. 1765A—Air Operated Ferrule Machine. This machine will contract all but the heavier ferrules as indicated in the chart on page 14. Size: Base, 5"x16½". Maximum height, 15". Packaged complete as shown in illustration above.

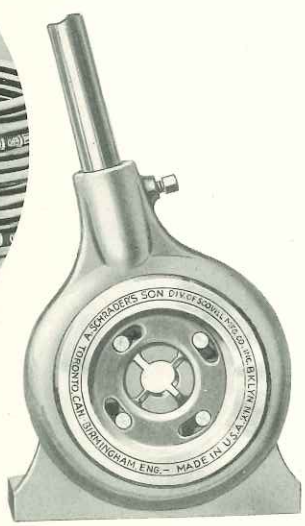
Hand-Operated Ferrule Machines

This Ferrule Contracting Machine can be readily bolted to a bench in a convenient position for production or intermittent requirements.



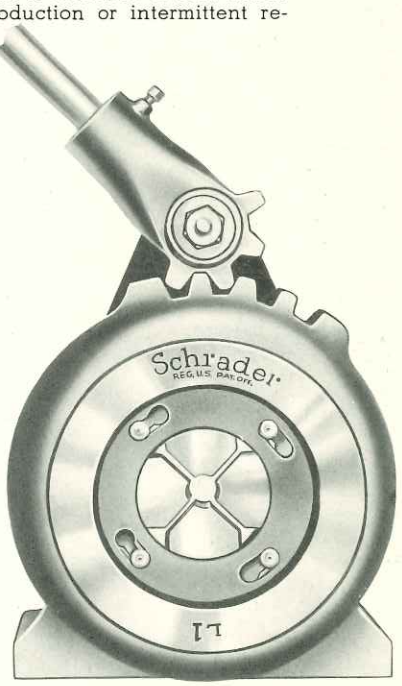
FERRULE CONTRACTING DIE SETS

Contracting Dies for all machines shown on this page must be ordered separately. The proper dies for contracting Schrader ferrules can be selected from the chart on page 14. When ordering specify Schrader number shown.



STANDARD TYPE

No. 5111—Hand Operated Ferrule Contracting Machine. Will handle the same ferrules as the No. 1765A Ferrule Machine. Size: Base, 8"x3". Height with handle upright, 27".



HEAVY DUTY GEAR TYPE

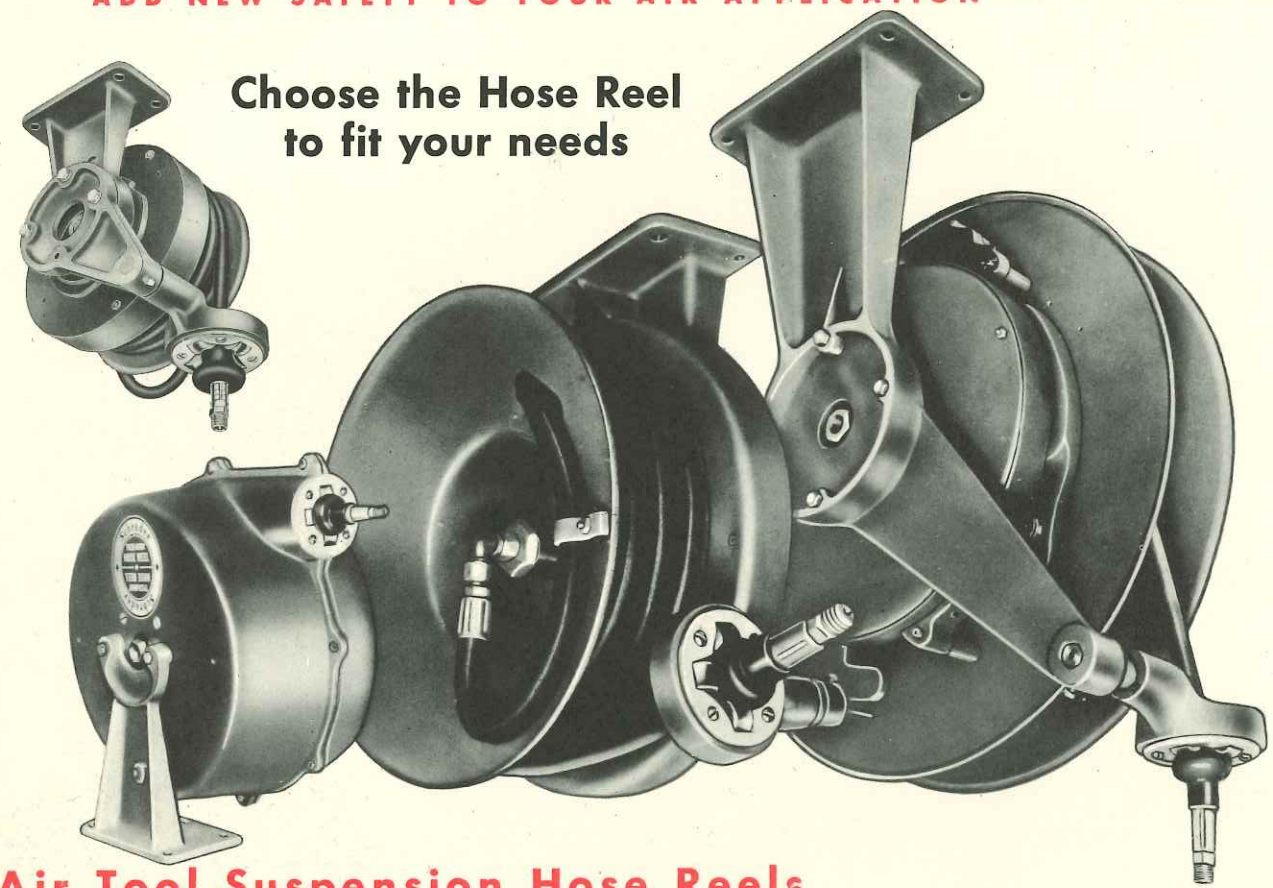
No. 5113—Gear Type Ferrule Contracting Machine. This machine is designed for contracting ferrules having heavier metal thicknesses as indicated in the chart on page 14. Size: Base, 12"x8". Height with handle upright, 36".

use convenient Schrader HOSE REELS

REG. U.S. PAT. OFF.

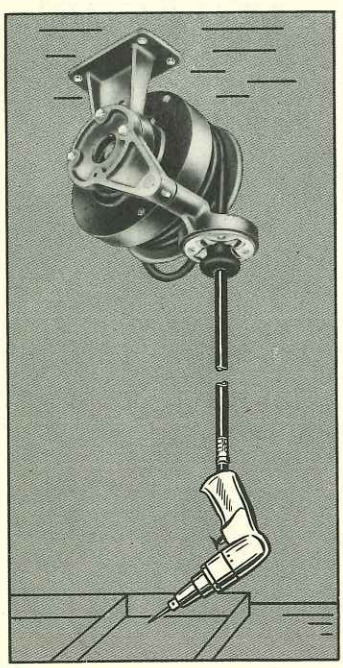
ADD NEW SAFETY TO YOUR AIR APPLICATION

Choose the Hose Reel to fit your needs

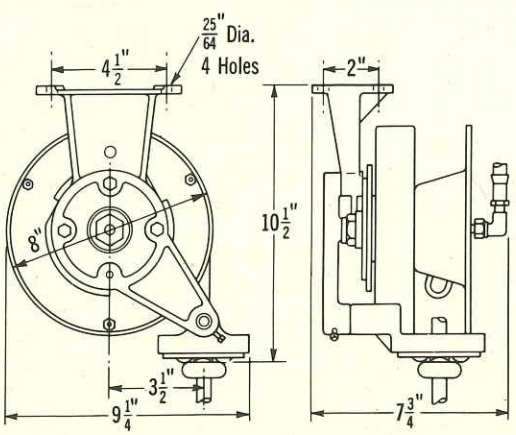


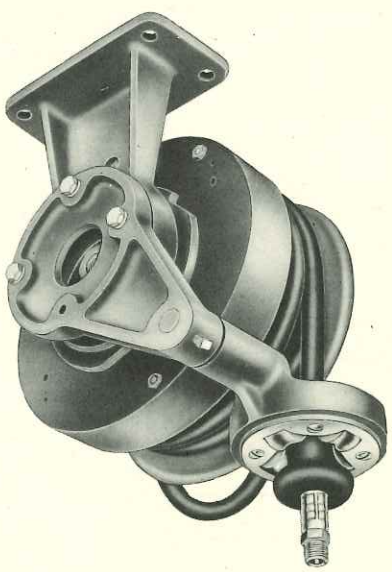
Air Tool Suspension Hose Reels

Saves duplication equipment and maintenance. One unit combines tool suspension and air supply which simplifies installation . . . keeps tools always within reach . . . saves time on high speed production assemblies.



- Spring tension of the reel counterbalances weight of pneumatic drills, screwdrivers and other air tools.
- Powerful spring motor provides automatic uptake of tool. Tension can be adjusted by adding or removing coils of hose.





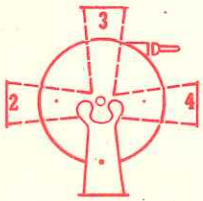
Schrader Number	Hose I. D.	Hose Length	Supports Air Tool
3481	¼"	15 Feet	to 5 lbs.
3481A	⅜"	10 Feet	to 5 lbs.
3485	¼"	15 Feet	5 to 10 lbs.
3485A	⅜"	10 Feet	5 to 10 lbs.

Schrader
REG. U.S. PAT. OFF.

Automatic Stop-Rewind Hose Reels

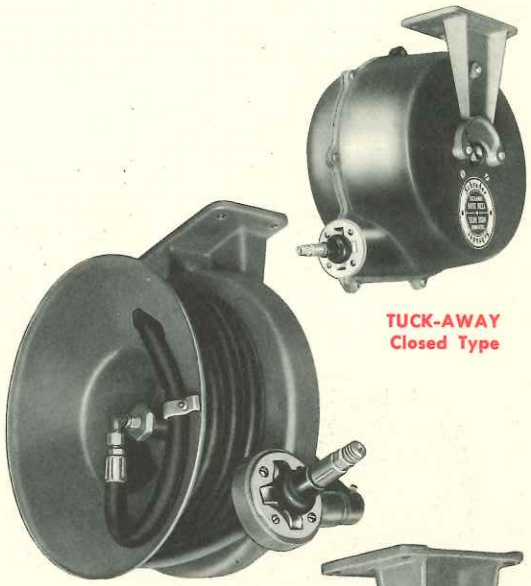
It is no longer necessary to let loose, snake-like coils of air hose clutter up your shop. Compact "Tuck-Away"* Hose Reels are easy to install, occupy little space. Check your shop and determine where Schrader Hose Reels will serve you best. These reels work as smoothly and as easily as a window shade. A slight tug rewinds the air hose quickly. Install "Tuck-Away"* Hose Reels wherever compressed air is used — with blow guns, spray guns, tire inflators, grease guns, grinders, drills and other interchangeable pneumatic tools.

The versatility of Schrader Hose Reels is further increased by the universal mounting feature, enabling them to be easily attached at the most convenient locations in your plant.



TUCK-AWAY HOSE REELS

These "Tuck-Away"* Hose Reels were designed, as the name implies, in small sizes to tuck away under benches, and other out-of-the-way spots, eliminating unsightly hose and providing good housekeeping.



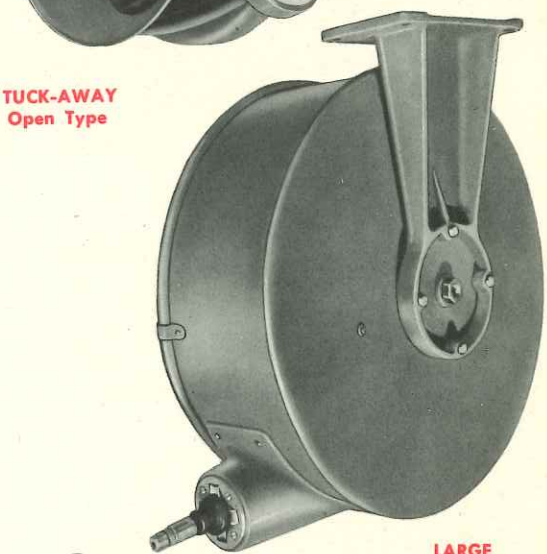
TUCK-AWAY
Closed Type

CLOSED TYPE

Schrader Number	Hose I.D.	Hose Length	DIMENSIONS (Inches) A	B	C	D	E	F1	G	N.P. X	Th'd. Y
2400	3/16"	12'	10 7/16	7 15/16	2	4 1/2	13/32	10	3	1/4	1/4
3063	1/4"	18'	14 5/8	9 13/16	2 3/4	5 3/4	13/32	14 1/8	4 15/16	1/4	3/8
3063A	1/4"	25'	14 5/8	9 13/16	2 3/4	5 3/4	13/32	14 1/8	4 15/16	1/4	3/8
3063B	3/8"	25'	14 5/8	9 13/16	2 3/4	5 3/4	13/32	14 1/8	4 15/16	3/8	3/8

OPEN TYPE

Schrader Number	Hose I.D.	Hose Length	DIMENSIONS (Inches) A	B	C	D	E	F2	G	N.P. X	Th'd. Y
3063H	1/4"	18'	14 5/8	8 7/16	2 3/4	5 3/4	13/32	12	4 15/16	1/4	3/8
3063J	1/4"	25'	14 5/8	8 7/16	2 3/4	5 3/4	13/32	12	4 15/16	1/4	3/8
3063K	3/8"	25'	14 5/8	8 7/16	2 3/4	5 3/4	13/32	12	4 15/16	3/8	3/8



TUCK-AWAY
Open Type

Large Hose Reels

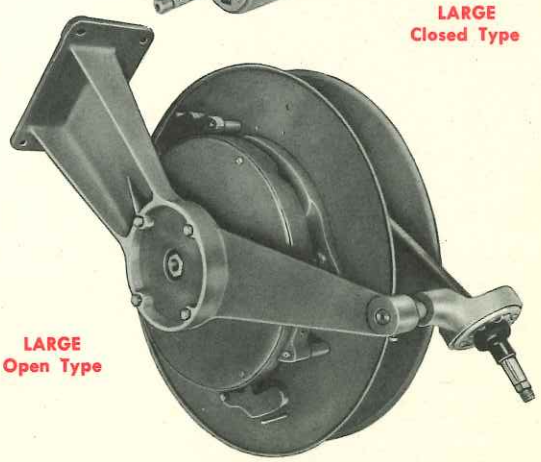
Where larger sizes and longer lengths of hose must be used, specify these large sized Schrader Hose Reels.

CLOSED TYPE

Schrader Number	Hose I.D.	Hose Length	DIMENSIONS (Inches) A	B	C	D	E	F1	G	N.P. X	Th'd. Y
2600A	1/4"	50'	21 7/8	11	3 3/4	7 3/4	13/32	20 3/8	7 1/2	1/4	3/8
2600C	3/8"	50'	21 7/8	11	3 3/4	7 3/4	13/32	20 3/8	7 1/2	3/8	3/8
2600D	1/2"	35'	21 7/8	11	3 3/4	7 3/4	13/32	20 3/8	7 1/2	3/8	3/8

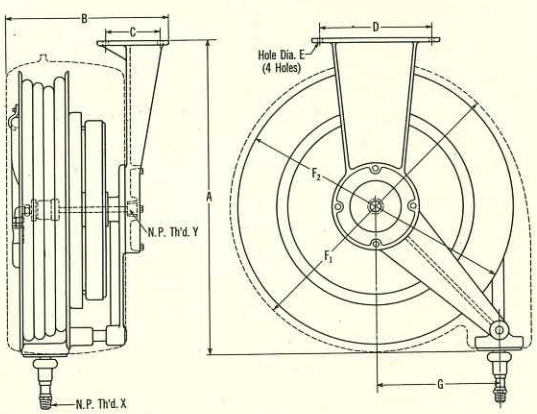
OPEN TYPE

Schrader Number	Hose I.D.	Hose Length	DIMENSIONS (Inches) A	B	C	D	E	F2	G	N.P X	Th'd. Y
2700A	1/4"	50'	21 7/16	11 1/4	3 3/4	7 3/4	13/32	19	8 7/16	1/4	3/8
2700C	3/8"	50'	21 7/16	11 1/4	3 3/4	7 3/4	13/32	19	8 7/16	3/8	3/8
2700D	1/2"	35'	21 7/16	11 1/4	3 3/4	7 3/4	13/32	19	8 7/16	3/8	3/8



LARGE
Closed Type

LARGE
Open Type



*Reg. U. S. Pat. Off.

Pressure Gauges For Testing Air Line Pressures

Maintenance men appreciate the accuracy of this direct action gauge for determining pressure drops or variations in air systems. A handy plug-in type.

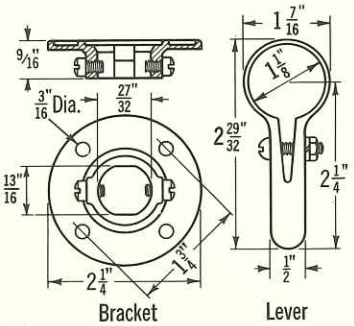
No. 1746 (fits Hevi-Duty check units on page 10). Calibrated in 5 lb. units from 20 to 120 p.s.i.

No. 1745 (fits Standard check units on page 11). Calibrated in 5 lb. units from 20 to 120 p.s.i.

Bracket and Lever Sets For Panel Hook-Ups

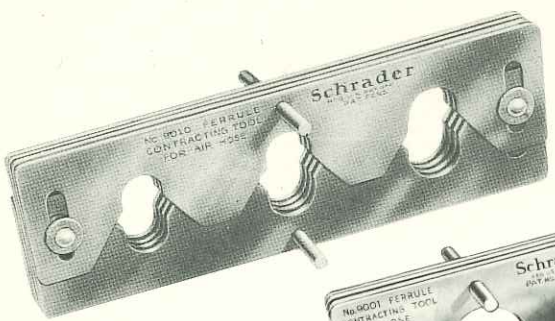
The use of a Schrader Quick-Acting Coupler in instrument and other panel hook-ups provides an ideal installation when applied with this set. The check unit body is clamped rigidly in position while the lever grips the check unit sleeve. A flip of the lever quickly disconnects the adapter from the check unit. Fits standard type couplers only.

No. 1878—Bracket and Lever Set.



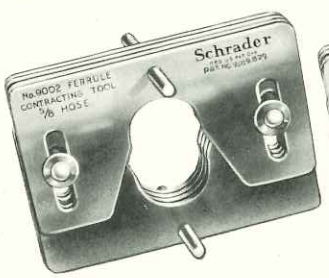
Vise-Type Ferrule Contracting Tools

This light vise-type tool should be a part of every maintenance man's tool kit. All you need to operate it is a bench vise. Just place the tool between the open jaws of the vise, insert the hose with the fitting and ferrule in place, and tighten the vise. The job is done.

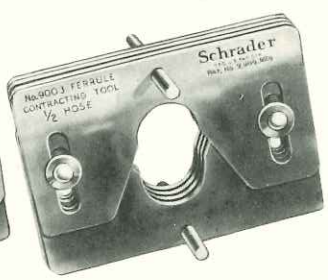


No. 9010—For air hose sizes 0.562" O.D. to 0.750" O.D.

No. 9001—For air hose sizes 1.075" O.D. to 1.175" O.D.



No. 9002—For air hose sizes 0.950" O.D. to 1.050" O.D.



No. 9003—for air hose sizes 0.850" O.D. to 0.925" O.D.

No. 9000—Set of 3 Vise-Type Ferrule Contracting Tools—Consists of: →

HOSE CLAMPS FOR EMERGENCY OR TEMPORARY APPLICATION

These screw type hose bands make convenient temporary connections for hose fittings until recommended ferrules can be obtained and applied.

No. 1951—for 3/16" I.D. hose.
No. 1952—for 1/4" I.D. hose.
No. 1953—for 3/8" I.D. hose.
No. 1955—for 1/2" I.D. hose.

Schrader
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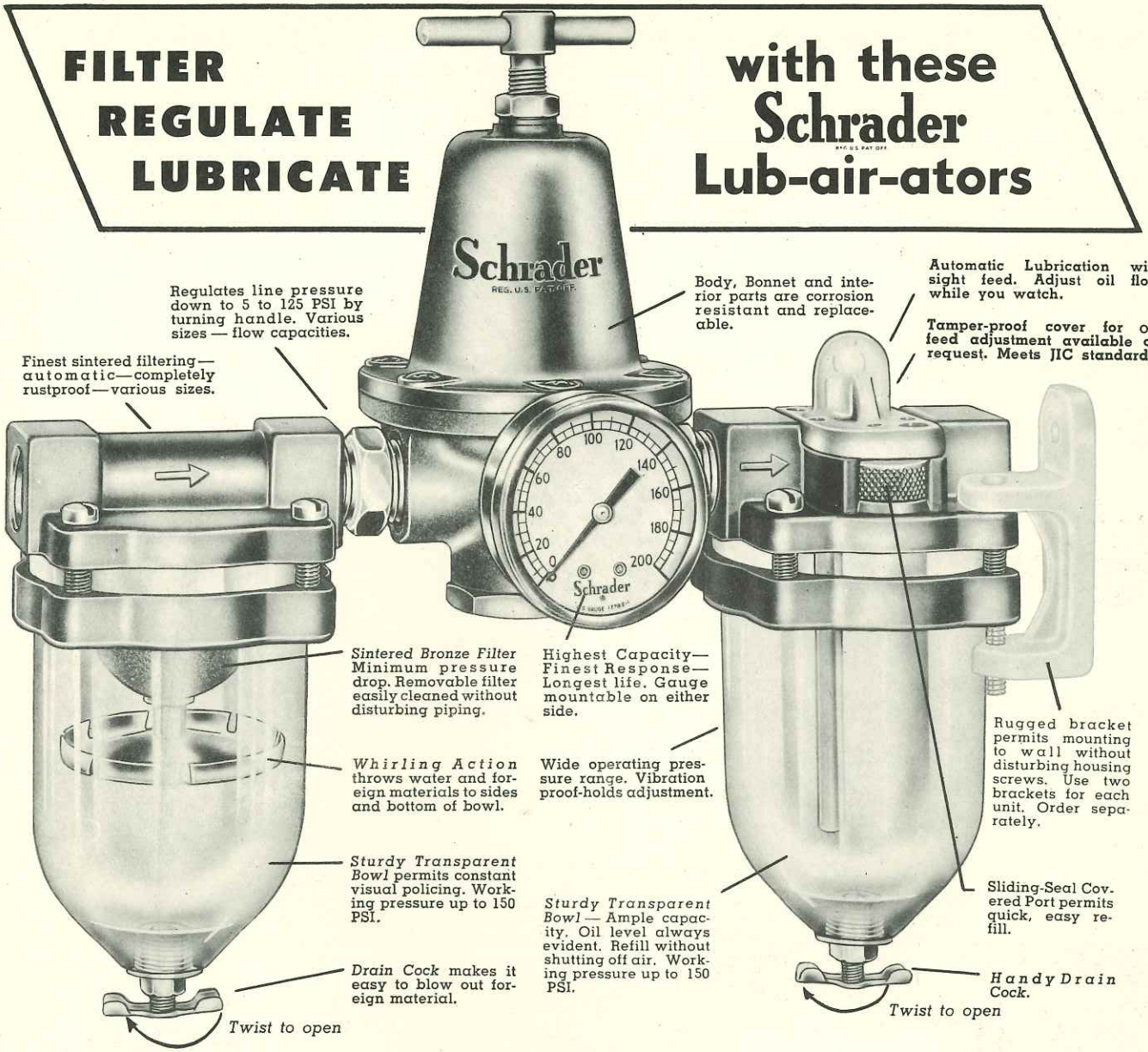
FILTER REGULATE LUBRICATE with these Schrader Lub-air-ators


Schrader
Regulates line pressure down to 5 to 125 PSI by turning handle. Various sizes — flow capacities.
Finest sintered filtering—automatic—completely rustproof—various sizes.
Body, Bonnet and interior parts are corrosion resistant and replaceable.
Automatic Lubrication with sight feed. Adjust oil flow while you watch.
Tamper-proof cover for oil feed adjustment available on request. Meets JIC standards.
Sintered Bronze Filter Minimum pressure drop. Removable filter easily cleaned without disturbing piping.
Highest Capacity—Finest Response—Longest life. Gauge mountable on either side.
Whirling Action throws water and foreign materials to sides and bottom of bowl.
Wide operating pressure range. Vibration proof-holds adjustment.
Rugged bracket permits mounting to wall without disturbing housing screws. Use two brackets for each unit. Order separately.
Sturdy Transparent Bowl permits constant visual policing. Working pressure up to 150 PSI.
Sturdy Transparent Bowl — Ample capacity. Oil level always evident. Refill without shutting off air. Working pressure up to 150 PSI.
Sliding-Seal Covered Port permits quick, easy refill.
Drain Cock makes it easy to blow out foreign material.
Handy Drain Cock.
Twist to open
Twist to open

Easily maintained. No moving parts — Can be serviced without disturbing pipe connections.

Any air line will serve your CONTROLS, INSTRUMENTS or AIR TOOLS *better* when:

1. Air is properly filtered
2. Air pressure is properly regulated
3. Adequate lubrication is available.

The Schrader LUB-AIR-ATOR was designed to do just this — A Filter cleans the air as it moves through — then the air is regulated to proper pressure requirements and finally lubrication in the correct amounts is delivered to those moving parts to minimize wear and friction. The Lub-air-ator gives your valuable equipment LONGER, CARE-FREE SERVICE.

The features pointed out above and the advantages of each of the three basic services shown in detail at the right, prove why you should use the LUB-AIR-ATOR for better, safer, more economical air installations. A true PREVENTATIVE MAINTENANCE DEVICE in a compact unit.

Schrader Number	Inlet and Outlet Ports	Height	Length	Depth
802FRL	¼ N.P.T.	9¼	10½	4¾
803FRL	⅜ N.P.T.	9¼	10⅞	4¾
804FRL	½ N.P.T.	9¾	12	5⅜
806FRL	¾ N.P.T.	13¼	13¾	6 3/16
808FRL	1 N.P.T.	13¼	13¾	6 3/16

SCHRADER AIR LINE FILTERS

FILTER

These Schrader Air Line Filters give your air equipment the maximum protection from rust, dirt and moisture that collects in compressed air systems. They are specially designed throughout to do the job right. Among the outstanding features are the large area *sintered* filter principle and baffle plate whirling action that throws foreign materials to sides and bottom of the bowl. Fully automatic there are no cartridges to replace. The filter element, bowl and baffle plate easily cleaned separately without disturbing the piping. The heavy duty transparent bowl provides visual "policing"—shows at a glance when accumulation of dirt should be blown out by simply turning the drain cock. For money saving protection, install one of these fine filters just ahead of each air control unit. Temperature range —40° to + 125° F.

Working pressures to 150 P.S.I. maximum**

Schrader Number	N.P. Threads	Flow* Capacity
3332	¼	125
3333	⅜	170
3334	½	230
3336	¾	475
3338	1	475

SCHRADER AIR PRESSURE REGULATORS

Standard and Self Bleed (Relieving) Types

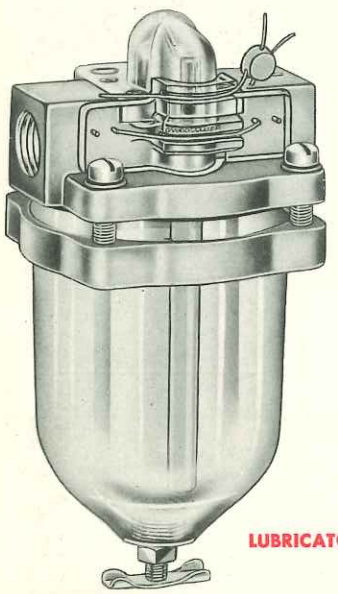
REGULATOR

Uniform air pressure means uniform operations, prevents waste of high pressure air. Main line pressure is usually higher than required for efficient air equipment operation. It varies with demands on the system, distance from compressor, points at which compressor cuts in and out. Reduce pressure to meet your requirements. Keep it constant. Save air by installing a Schrader Air Pressure Regulator. Size for size, this new regulator has higher capacity, faster response to demand changes, less drop in pressure as loads are increased in comparison with any other regulator available today. Body, bonnet and all interior parts are of corrosion-resisting materials assuring long life. Inlet pressures up to 400 psi can be regulated down to 5 to 125 psi by turning regulator handle. Pressure gauge can be mounted either front or rear on regulator — unit can be mounted in any position. Can be serviced without removal from the line. To prevent back pressure surges on outlet side of unit, self-bleed feature is also available upon request.

Self bleed or relieving type regulator made by Schrader are especially useful for policing pressure under "fixed volume or trapped" air condition. Self bleed regulators maintain constant pressure in trapped volumes by bleeding off higher than desired pressures or admitting additional air to maintain the set pressure—all automatically.

STANDARD TYPE		SELF-BLEED TYPE			
Number With Gauge	Number Without Gauge	Number With Gauge	Number Without Gauge	N.P. Threads	Flow* Capacity
3462G	3462	3462BG	3462B	¼	100
3463G	3463	3463BG	3463B	⅜	135
3464G	3464	3464BG	3464B	½	210
3466G	3466	3466BG	3466B	¾	245
3468G	3468	3468BG	3468B	1	290

SCHRADER AIR LINE LUBRICATORS



LUBRICATOR

Any air control system having moving parts such as cylinders and valves — air tools and equipment of all types — will render longer life and trouble free service when properly lubricated. These Schrader automatic lubricators will provide ample lubrication protection for these systems without causing any appreciable pressure drop. Once installed in the air line, the flow of lubricant can be easily adjusted FROM THE OUTSIDE by simply turning the knurled wheel to a wide variety of vibration-proof settings. Oil flow from a steady flow down to intermittent drops, as needed. The "sight feed" feature permits you to see the adjustment. The transparent bowls, ½ and 1 pint capacities, show oil levels at all times. Refilling is done through a special built-in sliding-seal covered port without shutting off the air. Water and sediment are easily removed via the handy drain cock. These and other features listed make the Schrader lubricator a "must" for all of your air systems. Temperature range — 40° to + 125° F. Use paraffin base oils of approximately SAE 10 viscosity only.

Working pressures to 150 P.S.I. maximum**

Schrader Number	N.P. Threads	Flow* Capacity
3482	¼	85
3483	⅜	160
3484	½	220
3486	¾	515
3488	1	590

* Based on cubic feet of free air per minute at 100 P.S.I. inlet pressure.
** For special higher pressure and extreme temperatures, metal bowl available on request.

Replacement Parts for FILTER, REGULATOR, LUBRICATOR — Schrader

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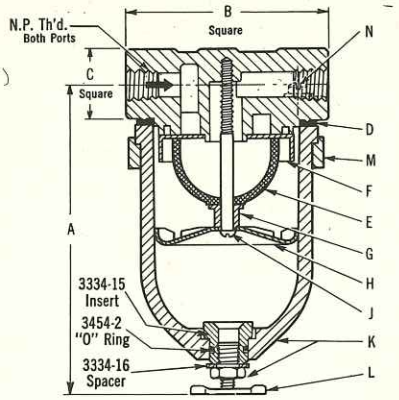
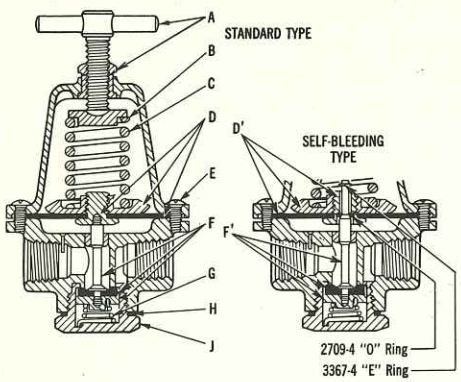
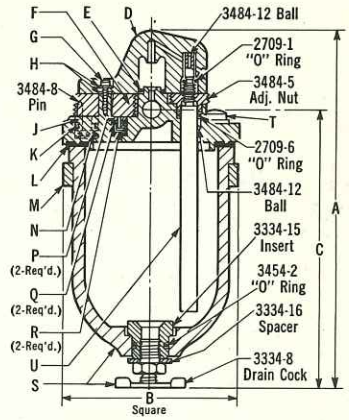


FILTER



REGULATOR



LUBRICATOR

FILTER REPLACEMENT PARTS

Schrader Number	N.P.T. (Ports)	Dimensions Shown in Inches A	B	C	Gasket D	Filter E	Deflector F	Spacer G	Disc H	Screw J	Bowl Assem K	Drain Cock L	Clamping Ring M	Screw N	Flow* Capacity	Bowl Capacity
3332	1/4	5 1/8	3 3/8 Sq.	1 3/16 Sq.	3334-12	3334-3	3334-4	3334-7	3334-5	3334-6	3334-198	3334-8	3334-13	3389-16B	125	1/2 Pint
3333	3/8														170	1/2 Pint
3334	1/2														230	1/2 Pint
3336	3/4	6 3/8	4 1/4 Sq.	1 13/16 Sq.	3488-5	3338-2	3338-3	3334-7	3338-4	3338-5	3488-195	3334-8	3488-6	3389-18B	475	1 Pint
3338	1														475	1 Pint

REGULATOR REPLACEMENT PARTS

Schrader Number	N.P. Th'd	Height	Width	Adjustment Screw A	Spring Button B	Spring C	Diaphragm Assembly D	Diaphragm Assembly D[1]	Screw E	Stem-Disc Assembly F	Stem-Disc Assembly F[1]	Spring G	Gasket H	Back Cap J
3462, B, BG, G	1/4	5 3/4	2 7/8	3463-192	3463-1	3463-3	3463-195	3463B-195	3463-4	3463-194	3463B-194	3463-11	3463-13	3463-12
3463, B, BG, G	3/8	5 3/4	2 7/8	3463-192	3463-1	3463-3	3463-195	3463B-195	3463-4	3463-194	3463B-194	3463-11	3463-13	3463-12
3464, B, BG, G	1/2	7	3 1/4	3464-192	3464-1	3464-3	3464-195	3464B-195	3464-4	3464-194	3464B-194	3464-11	3464-13	3464-12
3466, B, BG, G	3/4	8 3/4	4 1/4	3468-192	3468-1	3468-3	3468-195	3468B-195	3468-4	3468-194	3468B-194	3468-11	3468-13	3468-12
3468, B, BG, G	1	8 1/4	4 1/4	3468-192	3468-1	3468-3	3468-195	3468B-195	3468-4	3468-194	3468B-194	3468-11	3458-13	3468-12

For Gauge only specify No. 802-10

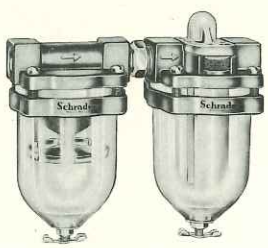
LUBRICATOR REPLACEMENT PARTS

Schrader Number	N.P.T. (Ports)	Dimensions Shown in Inches A	B	C	Cover Assembly D	"O" Ring E	Disc F	Screw G	Washer H	Seal Ring J	"O" Ring K	Gasket L	Clamping Ring M	Spring N	Seal Ring P	"O" Ring Q	Spring R	Bowl Assem S	Screw T	Tube U	Flow* Capacity	Bowl Capacity
3482	1/4	6 1/2	3 3/8 Sq.	5 1/4	3484-195	2709-6	3484-3	3315-3B	3484-13	3484-7	2709-6	3334-12	3334-13	3484-11	3484-6	2709-1	3484-10	3334-198	3389-16B	3484-194	85	1/2 Pint
3483	3/8																				160	1/2 Pint
3484	1/2																				220	1/2 Pint
3486	3/4	8 1/4	4 1/4 Sq.	6 3/8	3488-197	2709-9	3488-3	3314-7B	3488-8	3230-14	2709-9	3488-5	3488-6	3230-9	3213H-8	2709-5	3213H-9	3488-195	3389-18B	3488-196	515	1 Pint
3488	1																				590	1 Pint

LUB-AIR-ATOR COMBINATIONS

SCHRADER FILTER-REGULATOR

Schrader No. of Combination	Inlet and Outlet Port	Height	Length	Depth
802FR	1/4 N.P.T.	9 1/4	6 3/4	4 3/4
803FR	3/8 N.P.T.	9 1/4	7	4 3/4
804FR	1/2 N.P.T.	9 3/4	7 3/4	5 3/8
806FR	3/4 N.P.T.	13 1/4	9 1/4	6 3/16
808FR	1 N.P.T.	13 1/4	9 1/4	6 3/16



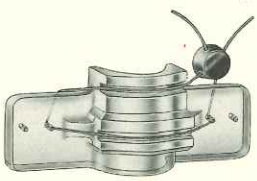
SCHRADER FILTER-LUBRICATOR

Schrader No. of Combination	Inlet and Outlet Port	Height	Length	Depth
802FL	1/4 N.P.T.	6 1/2	7 1/2	3 1/4
803FL	3/8 N.P.T.	6 1/2	7 3/4	3 1/4
804FL	1/2 N.P.T.	6 1/2	8	3 1/4
806FL	3/4 N.P.T.	8 1/4	9 1/2	4 1/4
808FL	1 N.P.T.	8 1/4	9 1/2	4 1/4

SCHRADER REGULATOR-LUBRICATOR

Schrader No. of Combination	Inlet and Outlet Port	Height	Length	Depth
802RL	1/4 N.P.T.	9 1/4	6 3/4	4 3/4
803RL	3/8 N.P.T.	9 1/4	7	4 3/4
804RL	1/2 N.P.T.	9 3/4	7 3/4	5 3/8
806RL	3/4 N.P.T.	13 1/4	9 1/4	6 3/16
808RL	1 N.P.T.	13 1/4	9 1/4	6 3/16

SCHRADER # 3487 TAMPER PROOF COVER



Assures desired oil feed rate by preventing unauthorized tampering with adjustment knob. Fits all lubricator sizes. Meets JIC requirements. Order separately.

SCHRADER #805 MOUNTING BRACKET

This sturdy bracket permits quick and easy wall mounting of any lubricator, filter or combination unit shown in this folder. Housing screws are not disturbed—simply slip over head of housing screw on filter or lubricator and tighten set screw against bottom of housing screw. Two brackets for each installation is recommended. See application picture on page 19.

* Based on cubic feet of free air per minute at 100 P.S.I. inlet pressure.

Schrader
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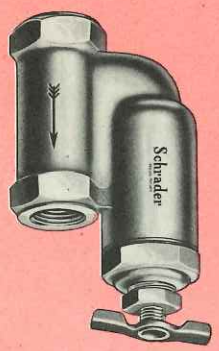
AIR LINE FILTERS

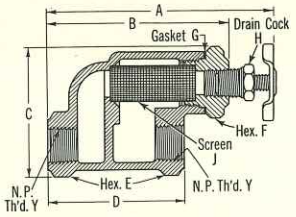
All main air supply lines collect moisture due to atmospheric conditions. Give your air equipment the maximum protection against moisture by installing Schrader Air Line Filters.

Features: **Free air of rust, dirt and moisture • Offer no restriction to air flow • Are designed for easy maintenance.**



Air Line Strainers

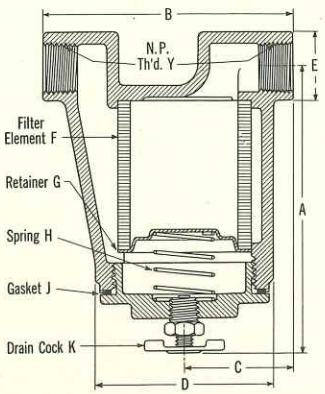
Prevent damage to your air control units by installing one of these compact strainers in the air supply lines. A fine brass screen collects damaging rust and scale without restricting air flow. Strainer can be cleaned periodically by simply opening the drain cock.



Schrader Number	N. P. Th'd. Y	DIMENSIONS (Inches) A	B	C	D	E	F	Gasket G	Drain Cock H	Screen J
9534	3/8	4	3 3/16	2 5/16	2 3/8	1	1 1/8	9534-3	9534-6	9534-2
1138	3/4	5 7/8	5	3 5/8	3 7/8	1 9/16	1 13/16	1138-3	1138-6	1138-2

Air Line Filters

This Schrader Air Line Filter should be installed ahead of each individual air control unit. It will clean the air before it enters valves, cylinders, air controls, pneumatic tools and other air hookups. The filter element is comprised of hundreds of laminations of a fine, newly developed material. Filtering area is large enough to assure full flow after long periods of use. Moisture is trapped and can be removed through a brass drain cock.

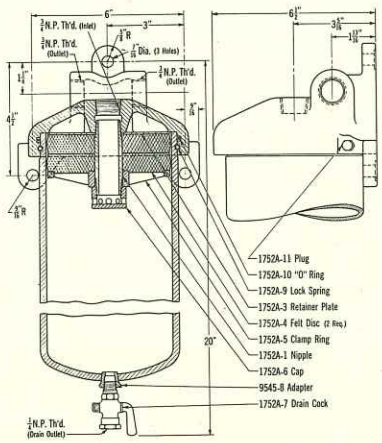


Schrader Number	N. P. Th'd. Y	DIMENSIONS (Inches) A	B	C	D	E	F Filter	G Retainer	H Spring	J Gasket	K Drain Cock	Flow* Capacity
3084	1/4	4 3/16	3 3/8	1 1/2	2 3/8	1	3084-3	3084-5	3082-6	3084-4	9534-6	170
3088	3/8	4 3/16	3 3/8	1 1/2	2 3/8	1	3084-3	3084-5	3082-6	3084-4	9534-6	235
3082	1/2	5 1/8	4 1/16	1 3/4	2 7/8	1 1/8	3082-3	3082-5	3082-6	3082-4	9534-6	300

Air Line Filter and Water Trap

Provide your air equipment with the money-saving protection of a Schrader Air Line Filter and Water Trap. The large filtering area of this unit will separate dirt, scale, rust and moisture from the air without restricting air flow. The filter elements should be cleaned periodically and can be removed and replaced without disturbing the pipe or mounting connections. A threaded drain cock facilities the blow-out and provides a means of piping collected moisture to a convenient disposal point. The design of this main-line filter embodies the advantages of a large filtering area for full flow, two-outlet construction for versatility in pipe layout and a flange for easy three-bolt mounting.

No. 1752A—3/4 N.P. Th'd. at inlet and outlet. Reservoir volume—255 cubic inches. Flow capacity 400 cu. ft. per minute.*



*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

Schrader Poppet-Type Valves

REG. U.S. PAT. OFF.

famous for quality and dependability

CHECK THESE FEATURES

- **WIDE CHOICE OF TYPES**

  Select any style, size or actuation method—Two, Three, Four-Way

- **PERMIT MAXIMUM AIR PASSAGE**

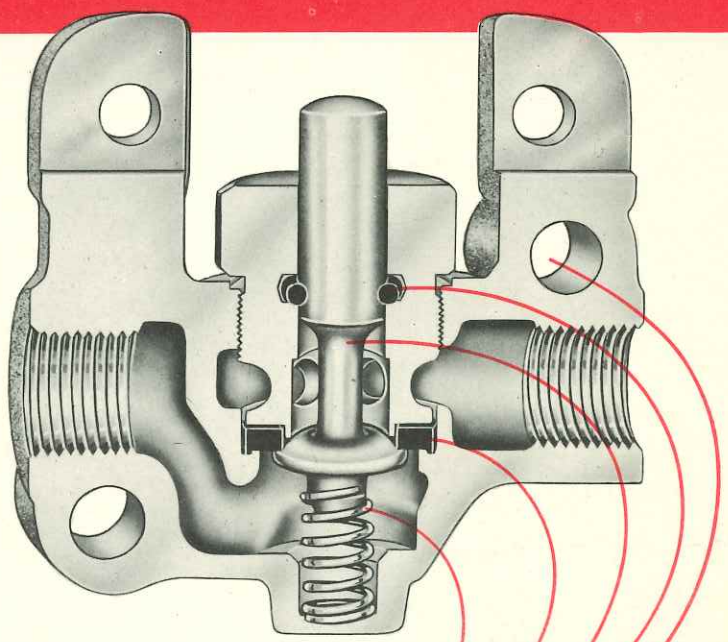
  size for size, poppet-type valves pass more air freely with less pressure drop

- **SHOCK-VIBRATION RESISTANT**

  brass cast body is rugged—stands up to years of continuous use

- **CUT DOWN-TIME—MAINTENANCE COSTS**

  simple basic construction assures trouble-free performance—parts easily replaced



TYPICAL SCHRADER POPPET VALVE DESIGN

——mounting holes always conveniently located—cam, roller, tripper, hand or foot-operated.

——"O" Ring used for surest airtight seal.

——tough, durable and oil-resistant synthetic rubber used in washers—make a positive, leakproof seat.

——stainless steel spring—rust resistant—longest service life.

——sturdy plated plungers—quick-acting, smooth-operating regardless of how they're triggered.

——all parts designed for greatest air flow, longest service life and simplicity of replacement and interchangeability.

Schrader poppet-type valves are the day-in and day-out workhorses of an air circuit. They are rugged, simply constructed and reliable.

There's no waste motion when you install a Schrader Poppet Valve—convenient mounting holes save you time. Inlet and outlet ports are clearly marked.

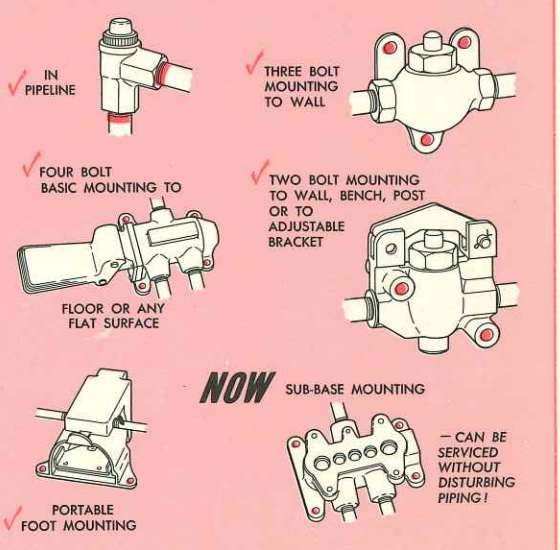
Schrader poppet valves are tough—they're built to take pounding, vibration, shock and other plant abuses.

Regardless of how they're triggered—by hand, foot, cam, pilot or electric impulse—Schrader 2, 3 or 4-way poppet valves are quick-acting. They are practical in design, precision-made and individually tested to full pressure rating before being shipped.

Should repairs become necessary, all replaceable parts can be removed easily . . . Costly down-time amounts to practically nothing.

You'll find the style, type and size of valve you need for any air circuit you design in this versatile Schrader line. Just select your needs from the more than one hundred models shown on the following pages. They are tops for solving your air control problems.

SCHRADER VALVES ALSO OFFER A WIDE SELECTION OF MOUNTINGS . .

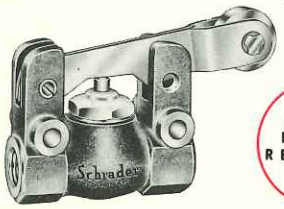

✓ IN PIPELINE
✓ THREE BOLT MOUNTING TO WALL
✓ FOUR BOLT BASIC MOUNTING TO
FLOOR OR ANY FLAT SURFACE
✓ TWO BOLT MOUNTING TO WALL, BENCH, POST OR TO ADJUSTABLE BRACKET
NOW
SUB-BASE MOUNTING
— CAN BE SERVICED WITHOUT DISTURBING PIPING!
✓ PORTABLE FOOT MOUNTING

A TYPE FOR EVERY AIR LAYOUT REQUIREMENT

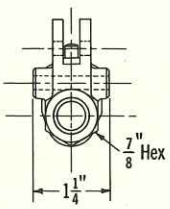
Valves With Roller Lever

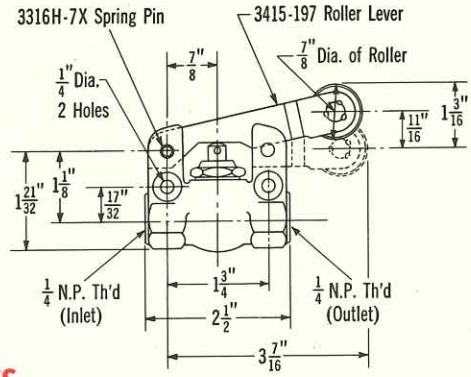
These valves are designed for any cam actuation. The free turning roller riding on a cam provides long life by reducing friction. Both roller and lever are made of steel for durability and strength.

SMALL (¼" SIZE) VALVES



PARTS EASILY REPLACED SEE PAGE 80

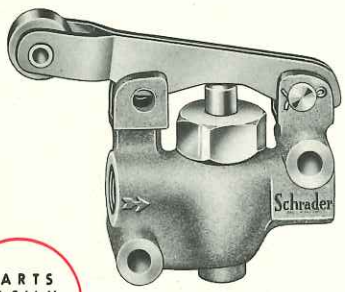




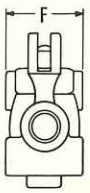
DIMENSIONS SHOWN FOR 3415 AND 3419 VALVES

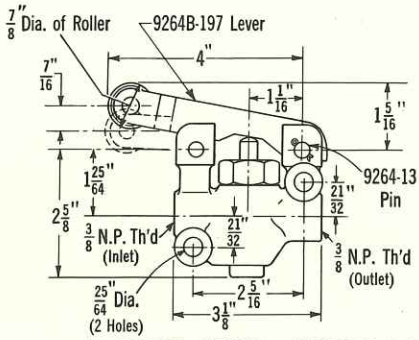
Schrader Number	N.P. Thd's. (Ports)	Type	Flow Capacity*
3415	¼	2-Way Normally Closed	70 cu. ft.
3419	¼	3-Way Normally Closed	70 cu. ft.

MEDIUM (⅜" SIZE) VALVES



PARTS EASILY REPLACED SEE PAGE 80

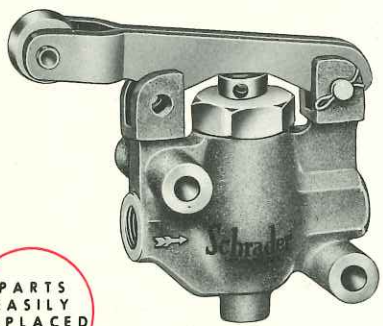




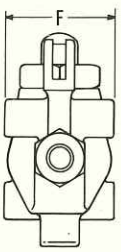
Dimensions for 9264BW, 2178BW and 1196BW Valves

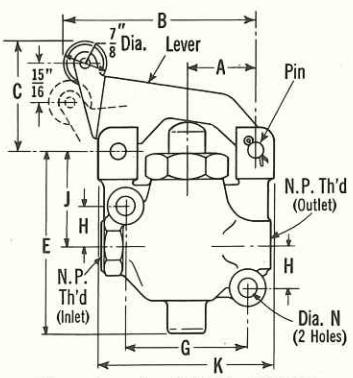
Schrader Number	N.P. Th'ds. (Ports)	Type	F	Flow Cap'y.*
9264BW	⅜	2-Way Normally Closed	1 5/8	170 cu.ft.
2178BW	⅜	2-Way Normally Open	1 5/8	170 cu.ft.
1196BW	⅜	3-Way Normally Closed	1 5/8	170 cu.ft.

LARGE (⅜"-½" SIZE) VALVES



PARTS EASILY REPLACED SEE PAGE 80





Dimensions for 2117BW, 1524BW and 1526BW Valves

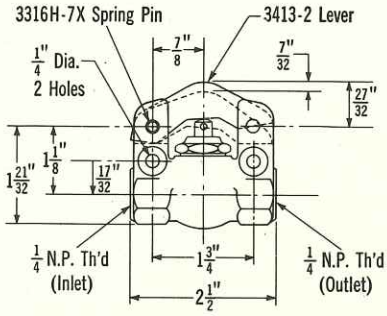
Schrader Number	N.P. Thd's. (Ports)	Type	LEVER PARTS		DIMENSIONS SHOWN IN INCHES										Flow Cap'y.*
			Lever	Pin	A	B	C	E	F	G	H	J	K	N	
2117BW	⅜	3-Way Normally Closed	2117B-197	9264-13	1 13/32	4 1/4	2 9/16	3 11/16	2 1/4	2 9/16	13/16	1 15/16	3 9/16	25/64	185 cu.ft.
1524BW	½	2-Way Normally Closed	1526B-197	1526-15	1 11/16	4 3/4	2 5/8	4 1/32	2 7/8	3 1/8	7/8	2 3/32	4 1/8	13/32	400 cu.ft.
1526BW	½	3-Way Normally Closed	1526B-197	1526-15	1 11/16	4 3/4	2 5/8	4 1/32	2 7/8	3 1/8	7/8	2 3/32	4 1/8	13/32	400 cu.ft.

*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

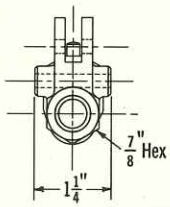
Valves With Solid Angle Lever

These valves are normally actuated by a roller tripper (see page 48) or by straight line action. The solid steel lever is designed for strength and durability.

SMALL (¼" SIZE) VALVES



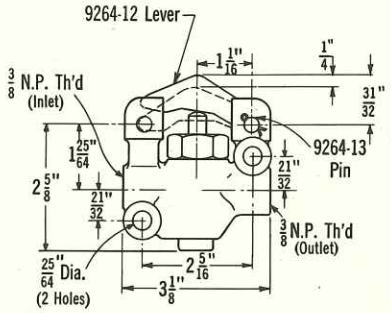
DIMENSIONS SHOWN FOR 3413 AND 3417 VALVES



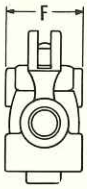
PARTS EASILY REPLACED SEE PAGE 80

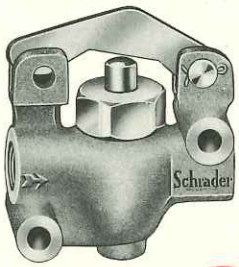
Schrader Number	N.P. Thd's. (Ports)	Type	Flow Capacity*
3413	¼	2-Way Normally Closed	70 cu. ft.
3417	¼	3-Way Normally Closed	70 cu. ft.

MEDIUM (⅜" SIZE) VALVES



Dimensions for 9264W, 2178W and 1196W Valves

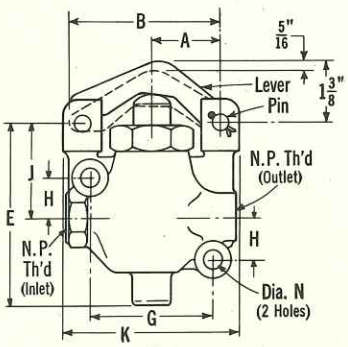




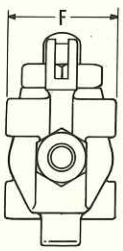
PARTS EASILY REPLACED SEE PAGE 80

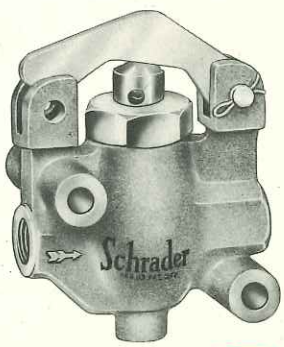
Schrader Number	N.P. Th'ds. (Ports)	Type	F	Flow Cap'y.*
9264W	⅜	2-Way Normally Closed	1⅝	170 cu.ft.
2178W	⅜	2-Way Normally Open	1⅝	170 cu.ft.
1196W	⅜	3-Way Normally Closed	1⅝	170 cu.ft.

LARGE (⅜"-½" SIZE) VALVES



Dimensions for 2117W, 1524W and 1526W Valves





PARTS EASILY REPLACED SEE PAGE 80

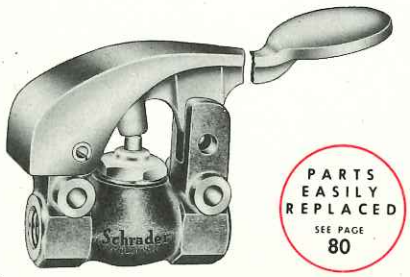
Schrader Number	N.P. Thd's. (Ports)	Type	LEVER PARTS		DIMENSIONS SHOWN IN INCHES									Flow Cap'y.*
			Lever	Pin	A	B	E	F	G	H	J	K	N	
2117W	⅜	3-Way Normally Closed	2117-14	9264-13	1 13/32	3 3/16	3 11/16	2 1/4	2 9/16	13/16	1 15/16	3 9/16	25/64	185 cu.ft.
1524W	½	2-Way Normally Closed	1526-14	1526-15	1 11/16	3 3/4	4 1/32	2 7/8	3 1/8	7/8	2 3/32	4 1/8	13/32	400 cu.ft.
1526W	½	3-Way Normally Closed	1526-14	1526-15	1 11/16	3 3/4	4 1/32	2 7/8	3 1/8	7/8	2 3/32	4 1/8	13/32	400 cu.ft.

* Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

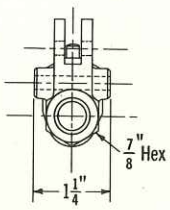
Valves With Hand Lever

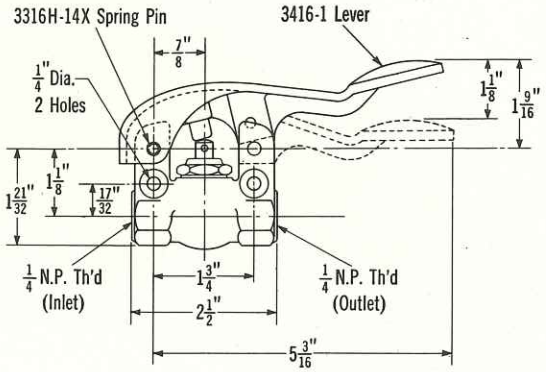
This fast-acting, functionally designed aluminum lever makes these valves ideal for hand operation. The light weight of the lever holds operator fatigue to an absolute minimum.

SMALL (¼" SIZE) VALVES



PARTS EASILY REPLACED SEE PAGE 80

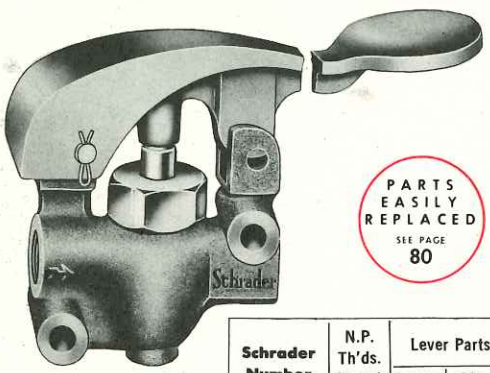




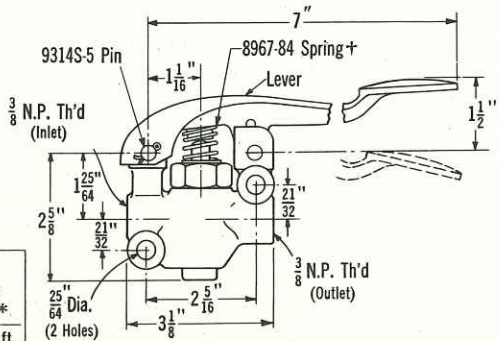
DIMENSIONS SHOWN FOR 3416 AND 3420 VALVES

Schrader Number	N.P. Thd's. (Ports)	Type	Flow Capacity*
3416	¼	2-Way Normally Closed	70 cu. ft.
3420	¼	3-Way Normally Closed	70 cu. ft.

MEDIUM (⅜" SIZE) VALVES



PARTS EASILY REPLACED SEE PAGE 80



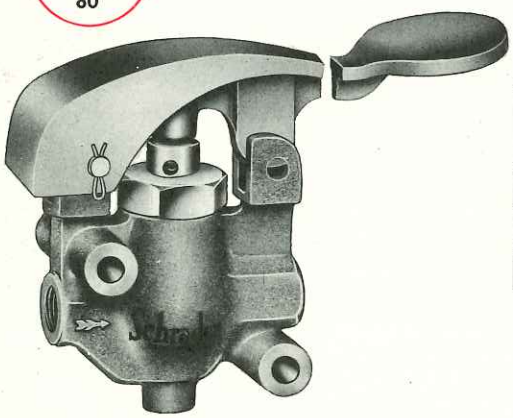
† Used on 1521W and 1415W Valves Only

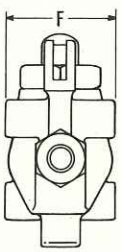
Dimensions for 1521W, 1649W, 1415W and 3190H Valves

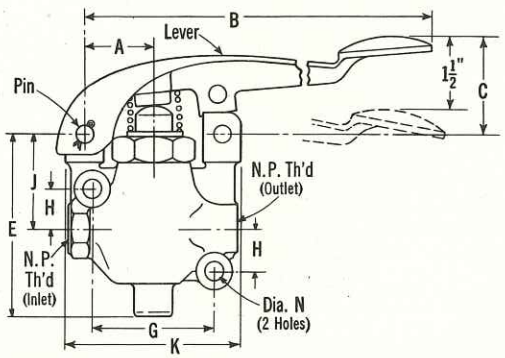
Schrader Number	N.P. Th'ds. (Ports)	Lever Parts: Lever	Lever Parts: Pin	Type	F	Flow Cap'y.*
1521W	⅜	1415-1	9314S-5	2-Way Normally Closed	1⅝	170 cu. ft.
1649W	⅜	1649-6	9314S-5	2-Way Normally Open	1⅝	170 cu. ft.
1415W	⅜	1415-1	9314S-5	3-Way Normally Closed	1⅝	170 cu. ft.
3190H	⅜	1649-6	9314S-5	3-Way Normally Open	1⅝	170 cu. ft.

LARGE (⅜"-½" SIZE) VALVES

PARTS EASILY REPLACED SEE PAGE 80







† Used on 1525W Valve Only.

Dimensions for 2117HW, 1525W and 1527W Valves

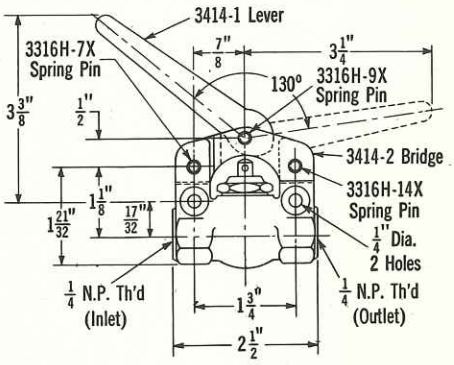
Schrader Number	N.P. Thd's. (Ports)	Type	LEVER PARTS: Lever	LEVER PARTS: Pin	DIMENSIONS SHOWN IN INCHES: A	B	C	E	F	G	H	J	K	N	Flow Cap'y.*
2117HW	⅜	3-Way Normally Closed	2117H-1	9314S-5	1 13/32	8 1/4	2 1/2	3 11/16	2 1/4	2 9/16	13/16	1 15/16	3 9/16	25/64	185 cu.ft.
1525W	½	2-Way Normally Closed	1527-1	1527-2	1 11/16	8 1/2	2 3/8	4 1/32	2 7/8	3 1/8	7/8	2 3/32	4 1/8	13/32	400 cu.ft.
1527W	½	3-Way Normally Closed	1527-1	1527-2	1 11/16	8 1/2	2 3/8	4 1/32	2 7/8	3 1/8	7/8	2 3/32	4 1/8	13/32	400 cu.ft.

*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

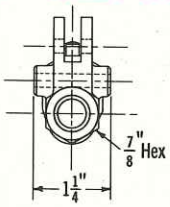
Valves With Hand Lockdown Lever

These valves with the same body design as shown on the previous page, can be locked in either the "on" or "off" position and can be used in all applications where blasts of air of indefinite lengths are desired. They make excellent shut-off valves.

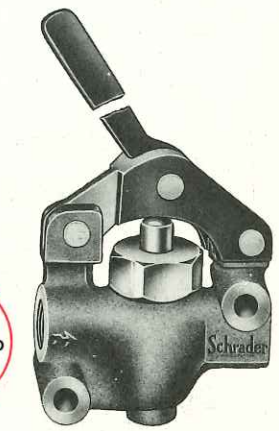
SMALL (¼" SIZE) VALVES



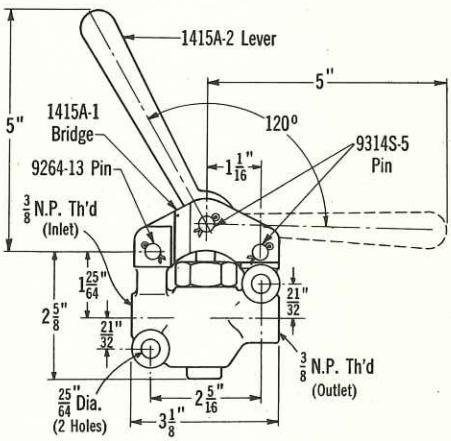
DIMENSIONS SHOWN FOR 3414 AND 3418 VALVES



Schrader Number	N.P. Thd's. (Ports)	Type	Flow Capacity*
3414	¼	2-Way Normally Closed	70 cu. ft.
3418	¼	3-Way Normally Closed	70 cu. ft.



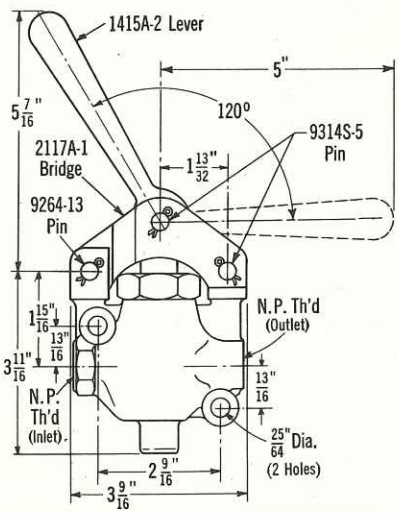
MEDIUM (⅜" SIZE) VALVES



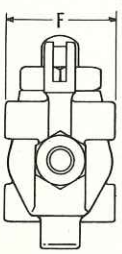
DIMENSIONS FOR 1521AW AND 1415AW VALVES

Schrader Number	N.P. Th'ds (Ports)	Type	F	Flow Cap'y *
1521AW	⅜	2-Way Normally Closed	1⅝	170 Cu.Ft
1415AW	⅜	3-Way Normally Closed	1⅝	170 Cu.Ft

LARGE (⅜" SIZE) VALVES

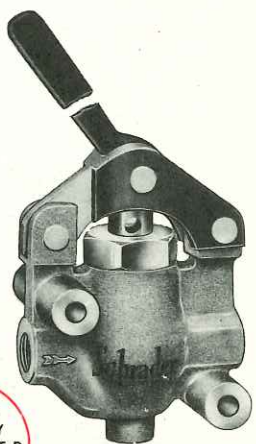


2117AW VALVE DIMENSIONS



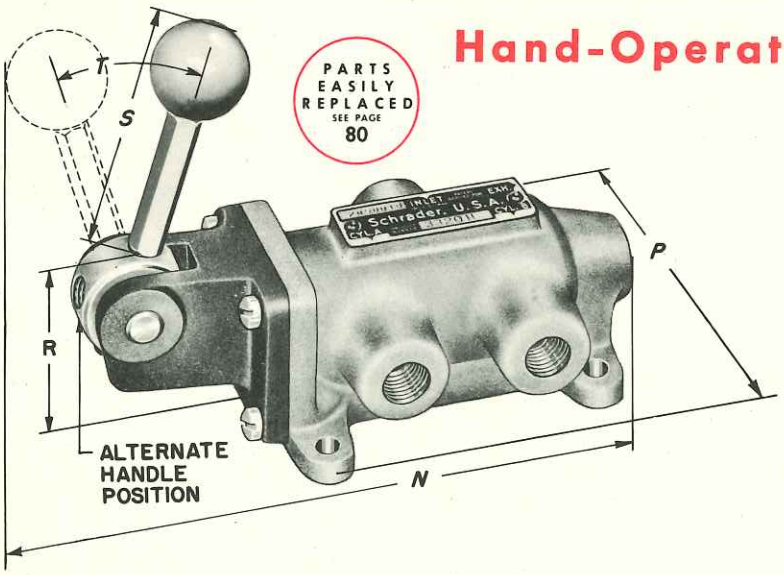
Schrader Number	N.P. Th'ds (Ports)	Type	F	Flow Cap'y *
2117AW	⅜	3-Way Normally Closed	2¼	185 Cu.Ft.

* Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.



ALSO SEE SPECIAL BUTTON, PILOT, RIGHT ANGLE, ETC. TWO AND THREE WAY VALVES—PAGES 34 TO 46

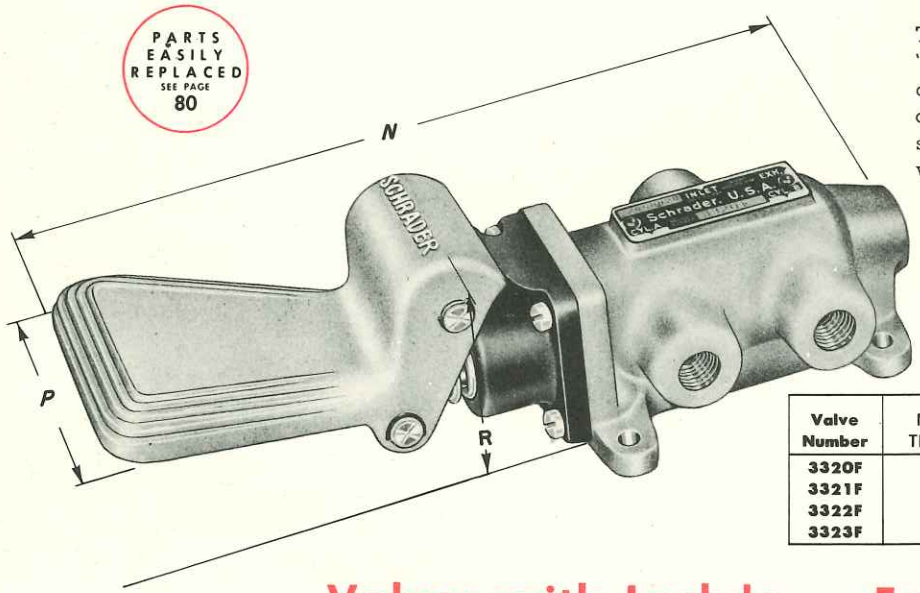
Hand-Operated Valves



Designed for easy hand actuation, these valves are ideal for operating double acting cylinders. They keep one side of the cylinder under air pressure until the lever is moved to opposite position. Moving the lever exhausts the air pressure from the original side of the cylinder and applies it to the other side thereby reversing the cylinder piston action.

Valve Number	N. P Thread	Dimensions (Inches)					Flow* Capacity
		N	P	R	S	T	
3320H	¼	6½	2 15/16	2⅛	2⅝	30°	150
3321H	⅜	6½	2 15/16	2⅛	2⅝	30°	150
3322H	½	10 1/16	4	3¼	3½	40°	375
3323H	¾	10 1/16	4	3¼	3½	40°	425

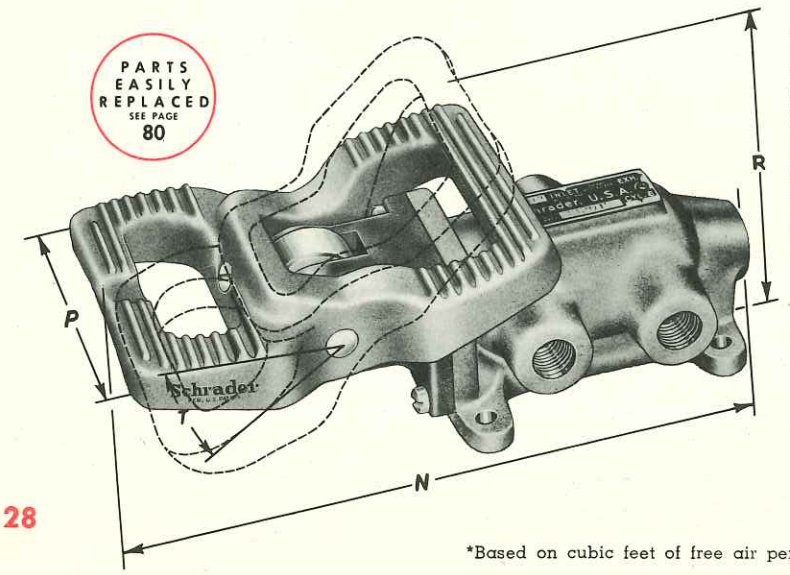
Foot-Operated Valves



The foot valve is designed for easy "tip toe" action. When the pedal is actuated, air flows to one side of the cylinder and exhausts from the other side. Releasing the foot pedal reverses the action.

Valve Number	N. P. Thread	Dimensions (Inches)			Flow* Capacity
		N	P	R	
3320F	¼	8⅞	2 13/16	2¾	150
3321F	⅜	8⅞	2 13/16	2¾	150
3322F	½	12½	3⅜	4	375
3323F	¾	12½	3⅜	4	425

Valves with Lockdown Foot Pedal



This valve features a rocker type pedal that locks open or closed until the foot pedal is tripped to the opposite position. They are ideal for operating double acting cylinders . . . tripping the pedal exhausts the air pressure from the original side of the cylinder and applies it to the other side, thereby reversing the cylinder piston position.

Schrader Number	N.P. Thread	Dimensions (Inches)				Flow* Capacity
		"N"	"P"	"R"	"T"	
3320FL	¼	7⅝	3⅛	3½	30°	150
3321FL	⅜	7⅝	3⅛	3½	30°	150
3322FL	½	11⅛	4	5⅛	40°	375
3323FL	¾	11⅛	4	5⅛	40°	425

*Based on cubic feet of free air per minute at 100 P.S.I. inlet pressure.

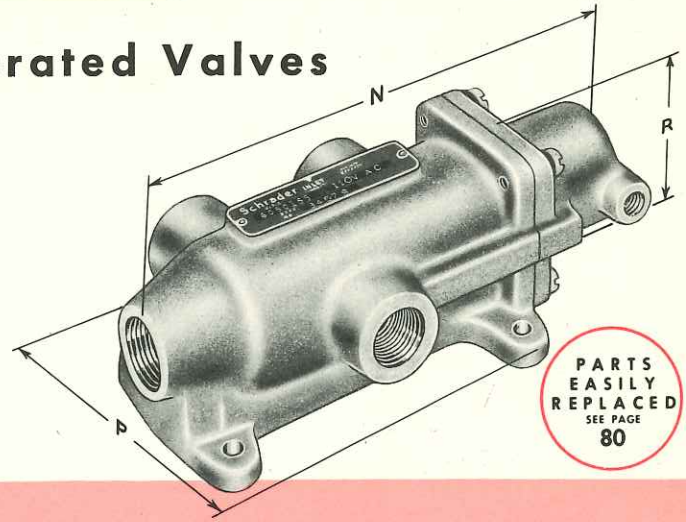
Schrader
REG. U.S. PAT. OFF.

Pilot-Operated Valves

This valve is used chiefly for remote control applications. A three-way valve is used to charge and discharge the pilot cylinder, thus actuating the basic valve. A feature of this 4-Way Valve is its positive seating under air pressure in both the on and off position.

Schrader Number	N. P. Th'd.	N	P	R	Flow* Capacity
3455P	¼	5⅝	2 15/16	2″	150
3456P	⅜	5⅝	2 15/16	2″	150
3457P	½	8⅛	4	2⅞	375
3458P	¾	8⅛	4	2⅞	425

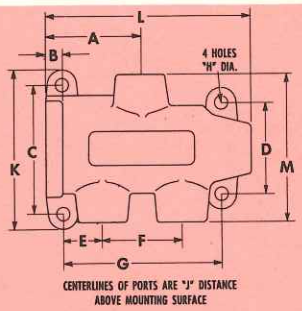
* Based on cubic ft. of free air per minute at 100 P.S.I. inlet pressure.



PARTS EASILY REPLACED SEE PAGE 80

MOUNTING DIMENSIONS OF BASIC VALVE HOUSING

These dimensions show how simple and compact installation plans can be in designing practical air systems.



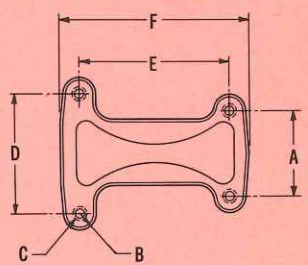
CENTERLINES OF PORTS ARE "J" DISTANCE ABOVE MOUNTING SURFACE

Complete Valve Sample No.	Valve Unit Port Size	Dimensions (Inches)											
		A	B	C	D	E	F	G	H	J	K	L	M
3320F, FL, H 3455P, S	¼ N.P.T.	1 13/16	5/16	2⅜	1 11/16	¾	1½	3	¼	1	2 15/16	3⅞	2¾
3321F, FL, H 3456P, S	⅜ N.P.T.	1 13/16	5/16	2⅜	1 11/16	¾	1½	3	¼	1	2 15/16	3⅞	2¾
3322F, FL, H 3457P, S	½ N.P.T.	2 27/32	⅜	3¼	2½	1⅛	2½	4¾	5/16	1 7/16	4	5⅞	3¾
3323F, FL, H 3458P, S	¾ N.P.T.	2 27/32	⅜	3¼	2½	1⅛	2½	4¾	5/16	1 7/16	4	5⅞	3¾

BASE PLATE FOR BASIC VALVE HOUSING

These Base Plates are required for basic valves where exhaust air is to be piped away from valve. Complete with rubber gasket.

NOTE: For use on valves shown above and on page 28.



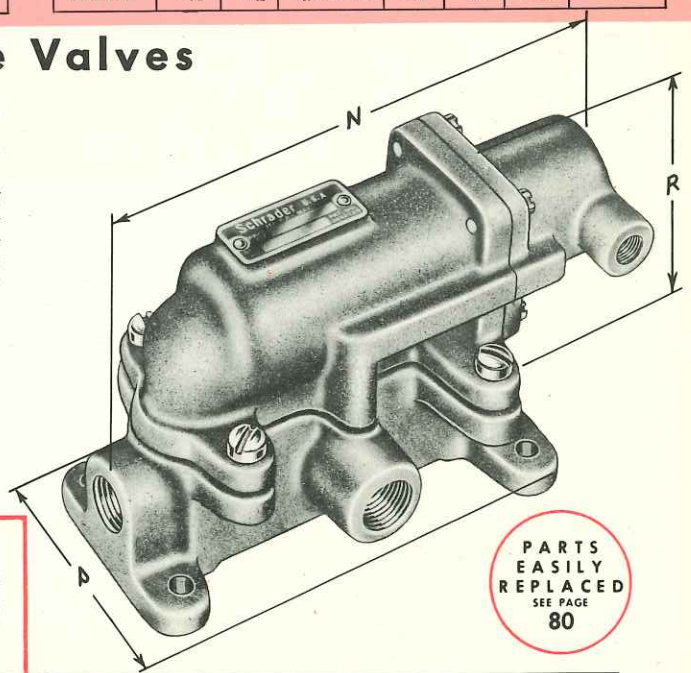
Schrader Number	A	B	C	D	E	F	Thickness
3320BP	1 11/16	5/16	¼-20 Th'd.	2⅜	3	3 23/32	5/16
3322BP	2 ½	13/32	5/16-18 Th'd.	3¼	4¾	5 ¾	½

Pilot-Operated Sub-Base Valves

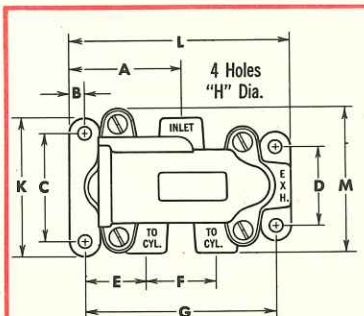
These valves embody the same operational features and ruggedness of the all basic 4-way and the pilot operated valves described above. An added feature is the sturdy cast meehanite sub-base with all the ports required for piping of air from the source to and from the cylinder being operated. This sub-base permits removal of the valve mechanism for service work without disturbing the piping installation. A complete new valve unit can be installed while repairs to the original are being made. This reduces the all-important "down time" to an absolute minimum.

Schrader Number	N. P. Th'd.	N	P	R	Flow* Capacity
810P	¼	5 29/32	3 5/32	3½	115
811P	⅜	5 29/32	3 5/32	3½	115
812P	½	8 15/32	4 3/16	4⅞	270
813P	¾	8 15/32	4 3/16	4⅞	270

*Based on cu. ft. of free air per min. at 100 P.S.I. inlet pressure.



PARTS EASILY REPLACED SEE PAGE 80



Centerlines of Ports are "J" Distance above Mounting Surface

MOUNTING DIMENSIONS FOR SUB-BASE VALVES

Schrader Number	Valve Unit Port Size	Dimensions (Inches)											
		A	B	C	D	E	F	G	H	J	K	L	M
810P-S-SA-SB-T 852S-SA-SB-T	¼ N.P.T.	2⅜	5/16	2⅜	1¾	1 5/16	1½	4⅛	¼	29/32	3	4¾	3 5/32
811P-S-SA-SB-T 853S-SA-SB-T	⅜ N.P.T.	2⅜	5/16	2⅜	1¾	1 5/16	1½	4⅛	¼	29/32	3	4¾	3 5/32
812P-S-SA-SB-T 854S-SA-SB-T	½ N.P.T.	3 7/16	7/16	3⅛	2½	1¾	2½	6	⅜	1 7/32	4	6⅞	4 3/16
813P-S-SA-SB-T 855S-SA-SB-T	¾ N.P.T.	3 7/16	7/16	3⅛	2½	1¾	2½	6	⅜	1 7/32	4	6⅞	4 3/16

Schrader Solenoid Type Valves

The Schrader line of Solenoid operated 3- and 4-way valves add a whole new field to air control design and automation. Electric control of air power means versatility of actuation and compactness of air systems layout for in plant production as well as for improvement of product design.

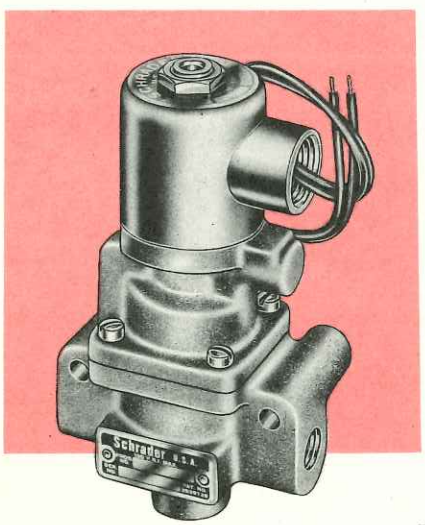
The number of control approaches range all the way from remote manual control to light, sound or even heat sensitivity for intricate work cycles.

They are designed to provide long and trouble free service life. Compact in size with full flow, they are constructed with sturdy cast brass bodies. Internal parts are rust resisting or amply protected. Interchangeability and simplicity of replacement parts is an added advantage.

Your air systems will be easier to design, install and operate when you select your valve needs from these versatile Schrader quality Solenoid Valves.

Solenoid Operated Three-Way Valves

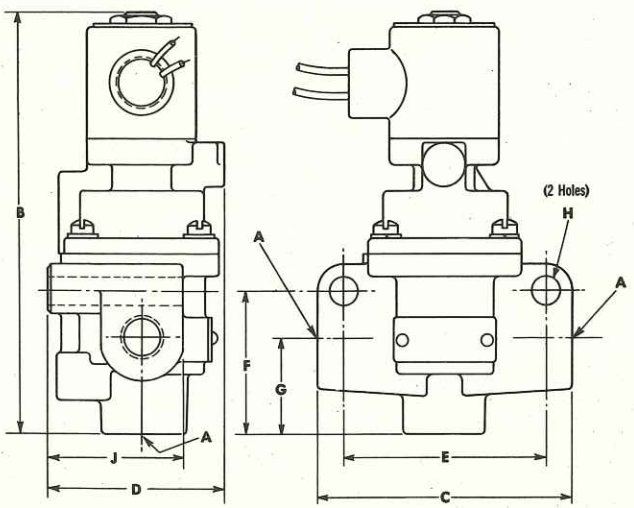
These single solenoid three-way valves are available in 5 pipe sizes and for 12V, 110V, 220V and 440 Volt styles. They may be obtained in normally open and normally closed types. An added feature is that by simply shifting the Pilot Chamber head 90°, a normally open type valve may be changed to a normally closed type and vice versa.



Schrader Number **		A									
Normally Closed	Normally Open	N. P. Th'd.	B	C	D	E	F	G	H	J	Flow* Capacity
972S,SA,SB,T	982S,SA,SB,T	¼	5 17/32	3 1/16	2 15/32	2 7/16	1 19/32	1 1/32	17/64	1 21/32	60
973S,SA,SB,T	983S,SA,SB,T	⅜	6¼	3¾	2⅝	3	2 1/16	1¼	25/64	1 31/32	180
974S,SA,SB,T	984S,SA,SB,T	½	6¼	3¾	2⅝	3	2 1/16	1¼	25/64	1 31/32	200
976S,SA,SB,T	986S,SA,SB,T	¾	6 27/32	4⅜	2 23/32	3½	2 21/32	1 39/64	25/64	2 5/16	375
978S,SA,SB,T	988S,SA,SB,T	1	6 27/32	4⅜	2 23/32	3½	2 21/32	1 39/64	25/64	2 5/16	400

* Based on cu. ft. of free air per minute at 100 P.S.I. inlet pressure.

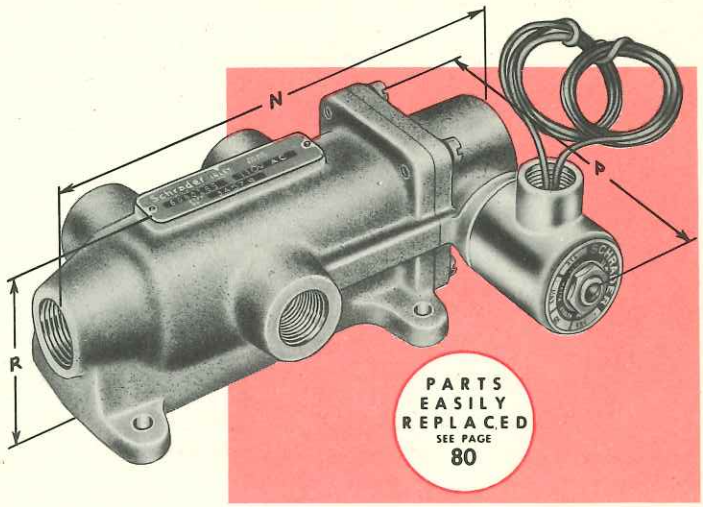
PARTS EASILY REPLACED SEE PAGE 80



**For voltage requirements specify suffix letters using the following key:
T = 12V — S = 110V — SA = 220V — SB = 440V

Single Solenoid 4-Way Valves

This series of 4-way valves, operated by the single solenoid principle, are for controlling double acting cylinders. Energizing the solenoid drives and holds the cylinder piston in the opposite direction until solenoid tripping action is released. Piston returns and holds in starting position upon release of tripping energy.



**For voltage requirements specify suffix letters using the following key:
T = 12V — S = 110V — SA = 220V — SB = 440V

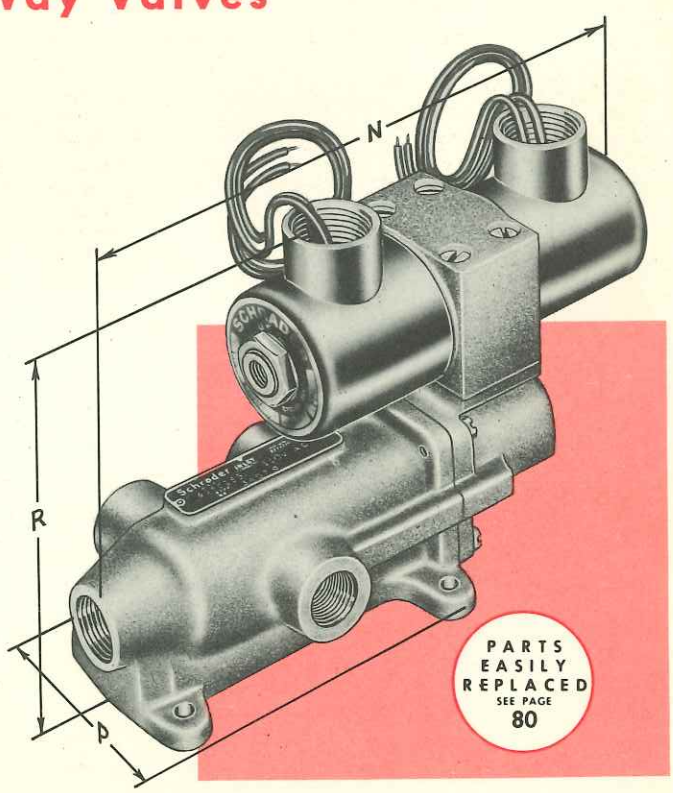
NOTE: See page 29 for Piped Exhaust Base Plates and basic valve dimensions.

Schrader Number**	N. P. Th'd.	N	P	R	Flow* Capacity
3455S,SA,SB,T	¼	5⅝	4⅞	2⅜	150
3456S,SA,SB,T	⅜	5⅝	4⅞	2⅜	150
3457S,SA,SB,T	½	8	5⅞	2⅞	375
3458S,SA,SB,T	¾	8	5⅞	2⅞	425

* Based on cubic ft. of free air per minute at 100 P.S.I. inlet pressure.

Double Solenoid 4-Way Valves

These new valves have the same basic features of the single solenoid types. The double solenoid feature permits a longer dwell time in either position without the requirement for continuous electrical energy. A momentary flick of a switch will shift the valve from one position to the other. Valve reversals are air operated, electrically controlled. Therefore air pressure is always on one side of a double acting cylinder while the other side is being exhausted. This assures positive seating and positioning every time.



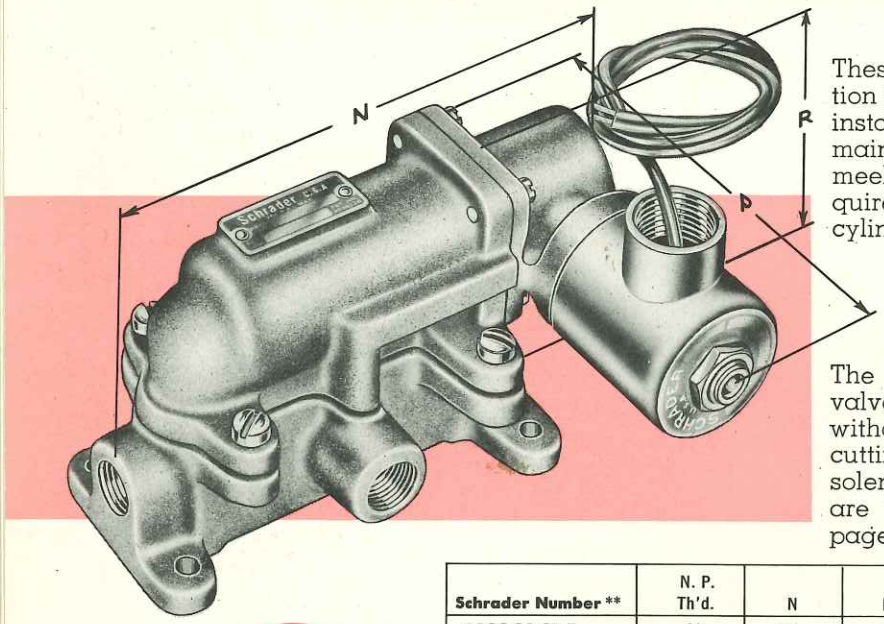
Schrader Number**	N. P. Th'd.	N	P	R	Flow* Capacity
825S,SA,SB,T	¼	7 3/16	2 15/16	4	150
826S,SA,SB,T	⅜	7 3/16	2 15/16	4	150
827S,SA,SB,T	½	9⅜	4	4¾	375
828S,SA,SB,T	¾	9⅜	4	4¾	425

* Based on cubic ft. of free air per minute at 100 P.S.I. inlet pressure.

**For voltage requirements specify suffix letters using the following key:
T = 12V — S = 110V — SA = 220V — SB = 440V

NOTE: See page 29 for Piped Exhaust Base Plates and basic valve dimensions.

Single Solenoid Valves—Sub-Base Type



These valves feature the sub-base construction principle that adds greater versatility to installation service, interchangeability and maintenance of air systems. The sturdy cast meehanite sub-base has all the ports required for piping of the air from source to cylinder and return.

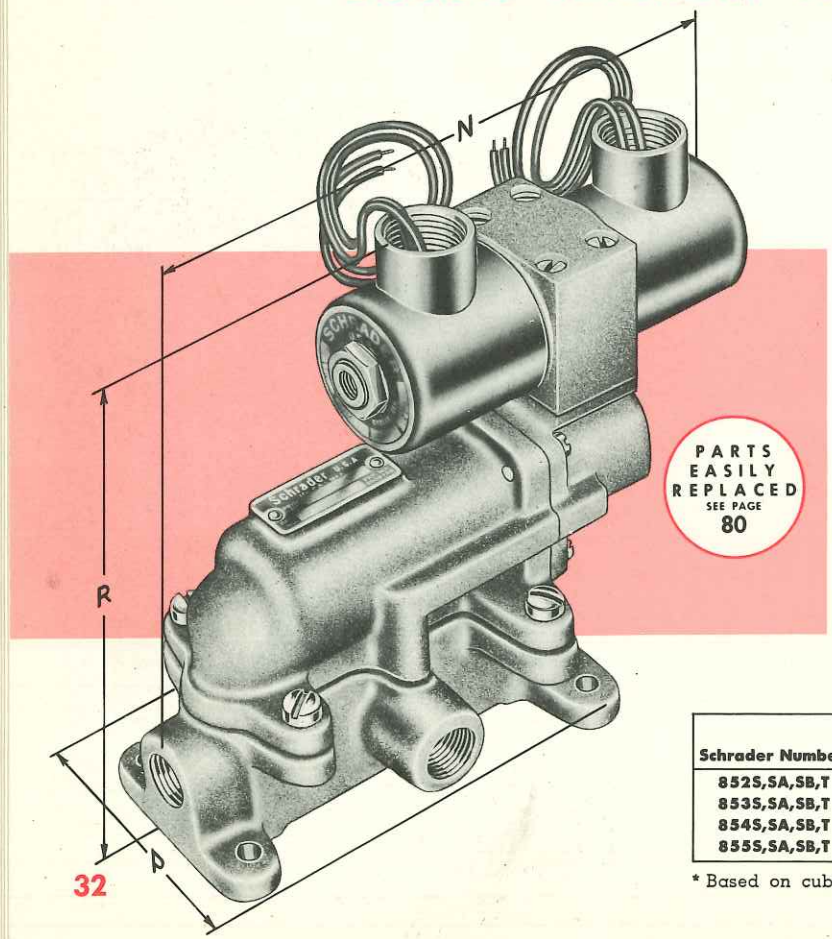
The sub-base permits the removal of the valve mechanism for service or replacement without disturbing the piping installation, cutting down-time to a minimum. The single solenoid 4-Way Valve operating advantages are the same as the No. 3455S type on page 31.

PARTS EASILY REPLACED SEE PAGE 80

Schrader Number **	N. P. Th'd.	N	P	R	Flow* Capacity
810S,SA,SB,T	¼	5⅞	5	3½	115
811S,SA,SB,T	⅜	5⅞	5	3½	115
812S,SA,SB,T	½	8 11/32	6	4⅞	270
813S,SA,SB,T	¾	8 11/32	6	4⅞	270

* Based on cubic ft. of free air per minute at 100 P.S.I. inlet pressure.
**For voltage requirements specify suffix letters using the following key:
T = 12V — S = 110V — SA = 220V — SB = 440V
NOTE: See page 29 for basic valve dimensions.

Double Solenoid Valves—Sub-Base Type



PARTS EASILY REPLACED SEE PAGE 80

Combining the features of Double Solenoid, 4-Way and sub-base in control valve construction make this series of valves ideal for air cylinder control. They are similar to the No. 825S type on page 31 but have the extra advantage of the sub-base as described above. Designers find these quality valves most desirable in air system planning both in-plant installations and on products as original equipment.

**For voltage requirements specify suffix letters using the following key:
T = 12V — S = 110V — SA = 220V — SB = 440V

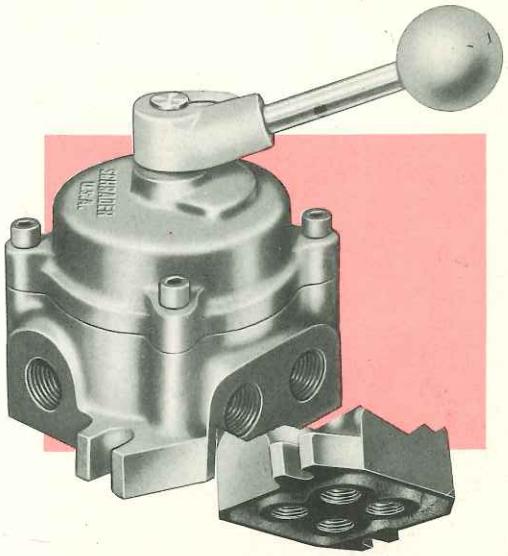
NOTE: See page 29 for basic valve dimensions.

Schrader Number **	N. P. Th'd.	N	P	R	Flow* Capacity
852S,SA,SB,T	¼	7 13/32	3 5/32	5 7/16	115
853S,SA,SB,T	⅜	7 13/32	3 5/32	5 7/16	115
854S,SA,SB,T	½	9¾	4 3/16	6 11/16	270
855S,SA,SB,T	¾	9¾	4 3/16	6 11/16	270

* Based on cubic ft. of free air per minute at 100 P.S.I. inlet pressure.

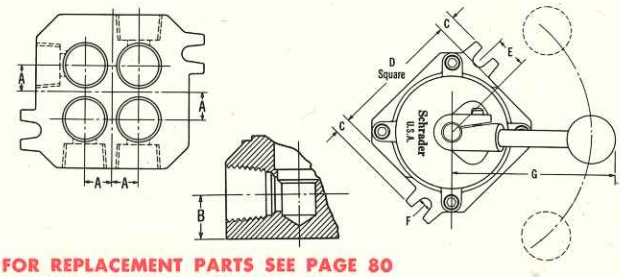
FOUR-WAY HAND OPERATED VALVES

Rotor Type 4-Way Valves



These Valves are designed for easy, hand actuation of double acting Air Cylinders. The rugged, cast Meehanite body houses a precision-lapped, stainless steel disc which slides on bronze rings to provide positive air-tight sealing action. Compact and durable, with a minimum number of easily replaceable, non-corrosive, working parts which can be replaced without disturbing pipe connections.

A special feature of this Valve is that any port may be selected as the intake. The two ports adjacent to the intake port become the Cylinder ports — the remaining port is for exhaust. A detent makes the neutral position easy to locate. Handle adjustable to any desired position for easy operation. It is available with side or bottom ports to facilitate mounting.



FOR REPLACEMENT PARTS SEE PAGE 80

SCHRADER NO.		N.P. Threads	DIMENSIONS (INCHES)							Overall Height	Flow* Capacity
Bottom Ports	Side Ports		A	B	C	D	E	F	G		
3270	3270A	1/4	1/2	9/16	5/16	2 7/8	1 1/16	1/4	4 3/16	4 1/2	140
3230	3230A	3/8	1/2	9/16	5/16	2 7/8	1 1/16	1/4	4 3/16	4 1/2	140
3210	3210A	1/2	1 1/16	13/16	1/2	4	1	3/8	5	6 1/4	300
3280	3280A	3/4	1 1/16	13/16	1/2	4	1	3/8	5	6 1/4	300

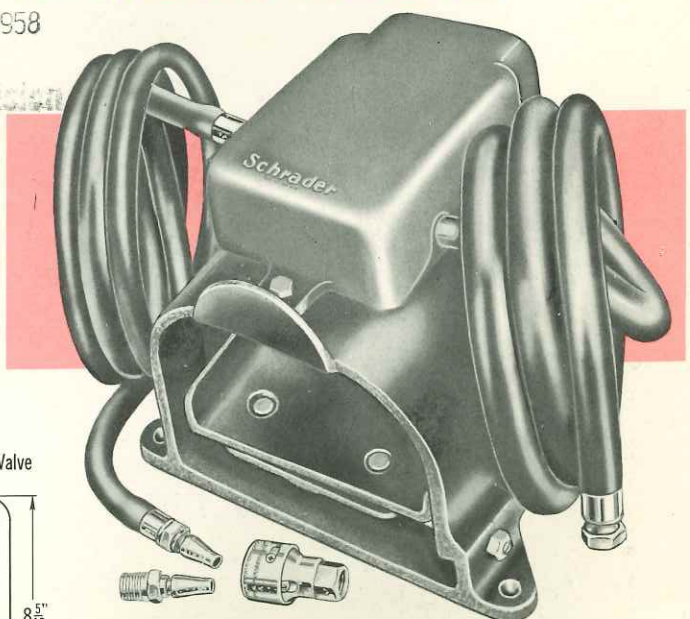
*Based on cubic feet of free air per minute at 100 P.S.I. inlet pressure.

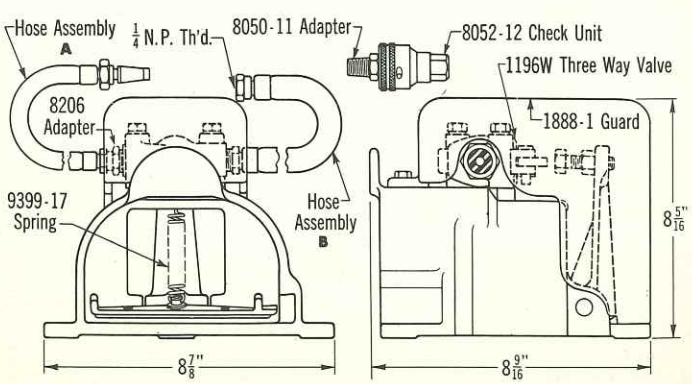
THREE-WAY FOOT-OPERATED VALVES

DEC 23 1958

Foot-operated Valves with Safety Guard

The ideal control valve for use with power presses, shears, spot welders, friction clutches, valve pilots, single acting cylinders and other applications calling for three-way valve action. A tip-toe 1/2 inch stroke, made without lifting foot off the floor can be substituted for tiresome mechanical pedal operation. Pedal has spring return for repetitive action or can be locked down if desired by a simple side movement of the foot. The unit is portable and can be moved around to suit the operator's working requirements. Will not creep under working conditions. Unnecessary steps and waste motion are eliminated by the use of this modern, streamlined valve for controlling compressed air.





9586W THREE-WAY VALVE

FOR REPLACEMENT PARTS SEE PAGE 80

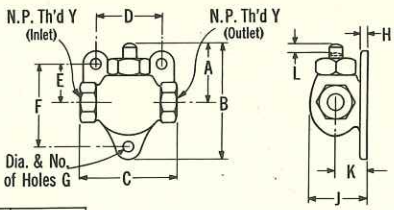
Schrader Number	HOSE ASSEMBLY A		HOSE ASSEMBLY B		Flow Cap'y (Cu. Ft.)*
	Schrader No.	Length	Schrader No.	Length	
9586W	9545-196	6′	9329C	5′	170
9586AW	9586A-198	8′	9329E	7′	170
9586BW	9586B-198	10′	9329G	9′	170
9586CW	9586C-198	12′	9329J	11′	170
9586DW	9586D-198	14′	9329L	13′	170
9586EW	9586E-198	16′	9329N	15′	170
1888W	VALVE WITHOUT HOSES				170

*Based on cubic feet of free air per minute at 100 p.s.i. inlet pressure.

PARTS EASILY REPLACED SEE PAGE 80

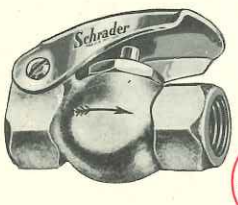
SURFACE MOUNTED VALVES

These sturdy, Schrader Two-Way Valves are designed especially for mounting on flat surfaces specifications chart below and page 35.



Schrader Number	Female N. P. Th'd. Y	DIMENSIONS (Inches) A	B	C	D	E	F	G	H	J	K	L	Flow Cap'y. (Cu. Ft.)*
8047W	1/8	1 3/8	2 7/8	2 1/2	1 7/8	51/64	2	3, 17/64	3/16	1 1/2	13/16	1/4	80
8632W	1/4	1 3/8	3	2 1/2	2	51/64	2 3/64	3, 13/32	3/16	1 1/2	13/16	1/4	90
7854W	3/8	1 3/4	3 1/2	3	2	1 1/8	2 1/2	3, 13/32	5/16	2 1/16	1 1/8	7/16	170
8831W	3/4	2 1/2	3 9/16	4 1/8	3 5/16	1 15/32	—	2, 13/32	5/16	2 3/4	1 1/2	3/8	700

No. 7866 Lever for cam or roller tripper operation of 8632W or 7854W Two-Way Valves.



PARTS EASILY REPLACED SEE PAGE 80

HAND OPERATED 2-WAY VALVE

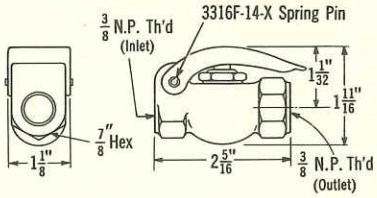
A handy, compact valve for use on an air line to supply blasts as desired. Lever provides for effortless hand actuation.

No. 8936W—3/8 N. P. Th'd, at inlet and outlet.
Air flow capacity 90 cu. ft.*

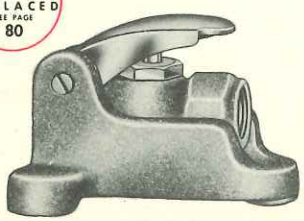
HAND OPERATED 3-WAY VALVE

This compact Three-Way Valve is suitable for general air line use. A low space-capacity ratio makes it applicable in confined areas. Air flow is easily controlled by the lever.

No. 3150—3/8 N. P. Th'd at inlet and outlet.
Air flow capacity 90 cu. ft.*



PARTS EASILY REPLACED SEE PAGE 80



FOOT OPERATED 2-WAY VALVE

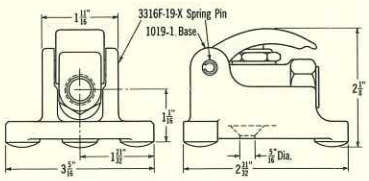
This valve is hinged on a mounting bracket which may be bolted in a handy position to deliver hand or foot-controlled air blasts. The valve proper is the same as the No. 8936W valve described above.

No. 1019W—3/8 N. P. Th'd at inlet and outlet.
Air flow capacity 90 cu. ft.*

FOOT OPERATED 3-WAY VALVE

This Three-Way Valve features a hinged base which nests the No. 3150 type valve. The base is easily bolted to any flat surface making it particularly applicable to foot operation.

No. 3150F—3/8 N. P. Th'd. at inlet and outlet.
Air flow capacity 90 cu. ft.*



8187

PARTS EASILY REPLACED SEE PAGE 80

7796
7796V

RIGHT ANGLE 2-WAY VALVE

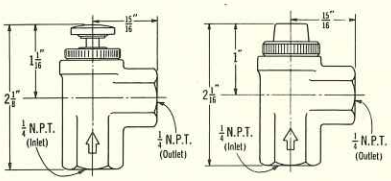
This Schrader Two-Way Valve operates at the press of a button and may be installed in a pipe line or used as a portable blow gun attached to a length of hose.

No. 7796—1/4 N.P. Th'd. at inlet and outlet.
Air flow capacity 35 cu. ft.*
For low pressure, use No. 7796V-1/4 N. P. Th'd. at inlet and outlet.

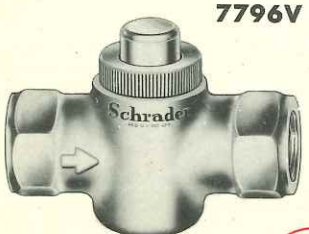
RIGHT ANGLE 3-WAY VALVE

This small Three-Way Valve is being widely used around the shop where it can be installed in an air line for operating small single acting cylinders by hand.

Air flow capacity 35 cu. ft.*
No. 8187—1/4 N. P. Th'd. at inlet and outlet.



8187 — 7796 and 7796V

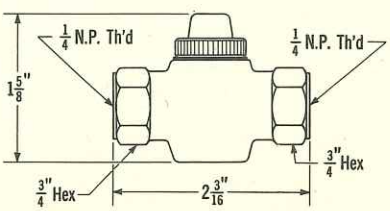


PARTS EASILY REPLACED SEE PAGE 80

STRAIGHT LINE 2-WAY VALVE

This new handy, compact valve was specially designed for use on airlines to supply blasts of air as desired. The button type plunger provides for convenient hand actuation.

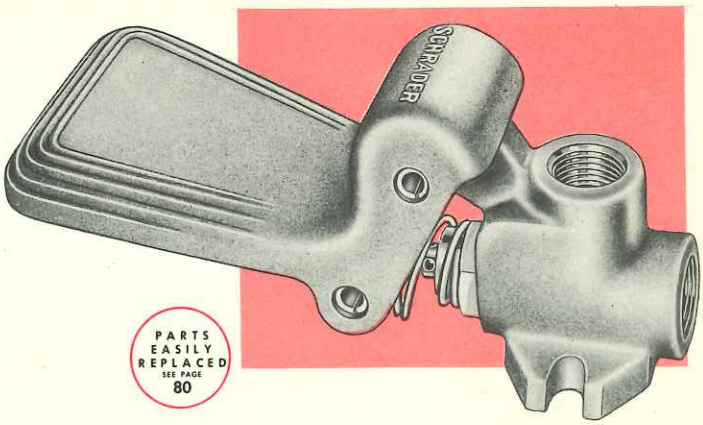
No. 3136—HAND OPERATED TWO-WAY VALVE—1/4" N.P. Thread at inlet and outlet. Air flow capacity 35 cu. ft.*

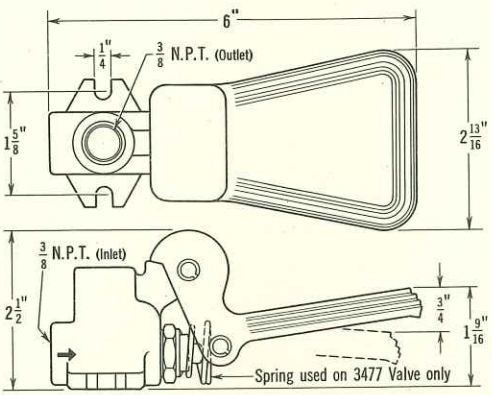


*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

TWO AND THREE-WAY FOOT OPERATED VALVES with right angle ports

These sturdy, compact valves mount directly on floor surface. Ports are positioned at right angles. They feature a rugged brass body with heavy lugs for two bolt mounting in convenient position for easy foot-actuation. The pedal returns to actuating position by spring action. Excellent for designing air installations requiring a compact two or three-way foot valve.





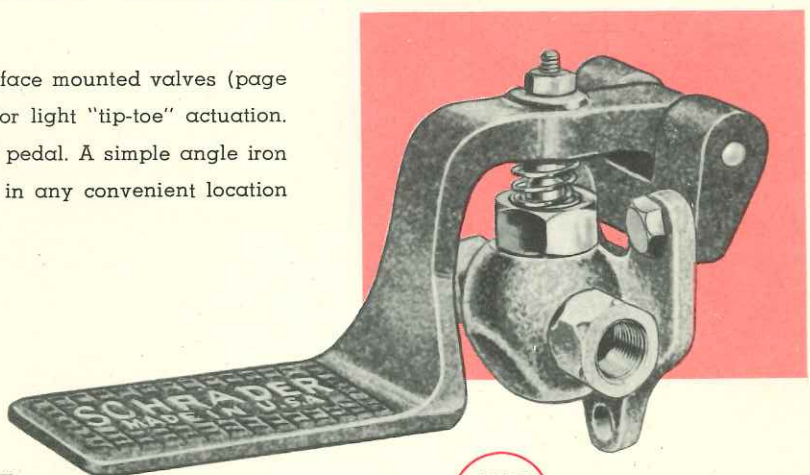
No. 3476 Two-Way Foot Operated Valve—3/8" N. P. T. Ports—designed for use where limited space is a factor. All parts made of corrosion resistant material and are readily accessible for servicing. Your operator will like its ease of actuation. Air Flow Capacity* of 75 cu. ft.

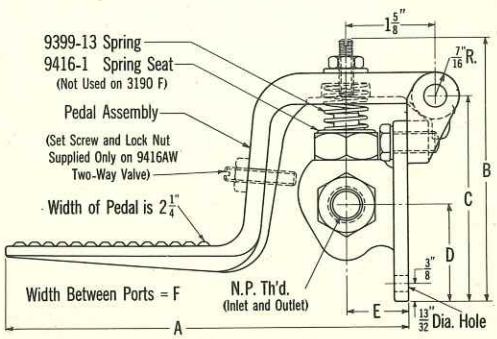
No. 3477 Three-Way Foot-Operated Valve—Similar to No. 3476 except for replacement parts as charted. Air Flow Capacity* 75 cu. ft.

*Based on cu. ft. of free air per minute at 100 P.S.I. inlet pressure.

TWO AND THREE-WAY FOOT OPERATED VALVES

These are the same type of valves as the surface mounted valves (page 34) but are packed complete with a pedal for light "tip-toe" actuation. Spring action closes the valves on release of pedal. A simple angle iron bracket will facilitate mounting these valves in any convenient location on the floor of your shop.





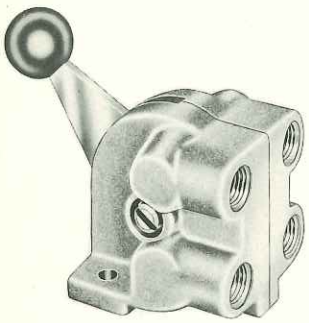
Schrader Number	N. P. Thds. (Ports)	TYPE	DIMENSIONS (Inches) A	B	C	D	E	F	Pedal Assembly	Flow Cap'y.*
9416AW	1/4	2-Way Normally Closed	6 3/4	4 5/16	3 1/4	1 5/8	13/16	2 1/2	9416A-198	90 Cu. Ft.
9416W	3/8	2-Way Normally Closed	7 1/8	4 3/4	3 11/16	1 3/4	1 1/8	3	9339	170 Cu. Ft.
1794W	3/8	2-Way Normally Open	7 1/8	4 3/4	3 11/16	1 3/4	1 1/8	3	9339	170 Cu. Ft.
1255W	3/8	3-Way Normally Closed	7 1/8	4 3/4	3 11/16	1 3/4	1 1/8	3	9339	170 Cu. Ft.
3190F	3/8	3-Way Normally Open	7 1/8	4 3/4	3 11/16	1 3/4	1 1/8	3	9339	170 Cu. Ft.

* Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

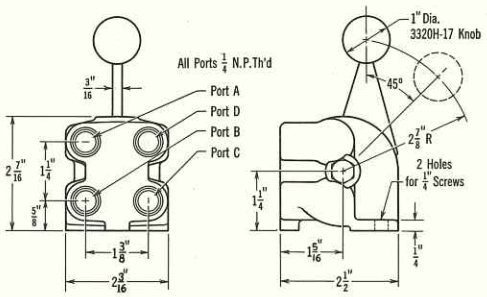
Sliding Seal Control Valves—Two, Three and Four-Way

Schrader Disc Type Valves are compact, durable and have a minimum number of working parts, all of which are easily replaceable. The valve body houses a precision-lapped stainless steel disc which slides on a bronze ring to provide positive airtight sealing action. The ring, "O" ring and spring are interchangeable in all sliding seal control valves of 822, 823, and 824 series.

VALVES WITH HAND LEVER — 2, 3 and 4-Way Type for Piped Exhaust — ¼" N.P.T. Ports

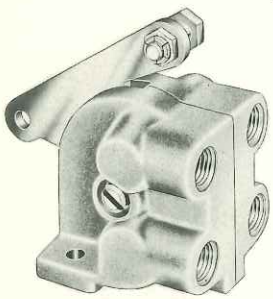


These compact, hand lever valves are ideal for neatest installations to control small single or double-acting cylinders. A special threaded port permits piping exhaust to desired position. Comfortable hand lever is easy to operate . . . holds set position. On Four-Way type a neutral position detent is provided. You'll find many uses for this series of valves.



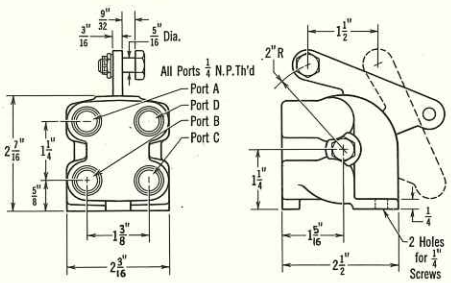
Schrader No.	Type	Disc Assembly "D"	Flow Capacity*
822H	2-Way	822H-198	55
823H	3-Way	823H-198	55
824H	4-Way	824H-198	55

NOTE: PORTS A, B, C, D on 4-Way Valve
PORTS A, B, C on 3-Way Valve
PORTS B, C on 2-Way Valve
Any Port on 2 or 4-Way can be inlet port.
Port C on 3-Way is inlet—Port A is exhaust.



VALVES WITH MECHANICAL LEVER — 2, 3 and 4-Way Type for Piped Exhaust — ¼" N.P.T. Ports

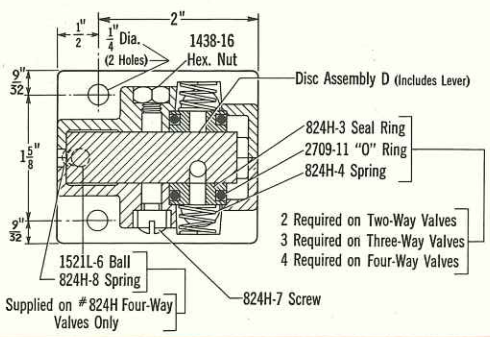
Similar to No. 822H series except for lever. Airtight performance over long periods of time are special features of these sliding seal valves. Specially useful for tripping with mechanical linkage.

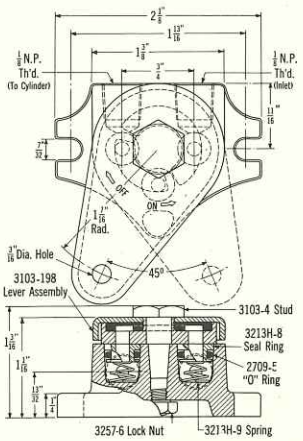


Schrader No.	Type	Disc Assembly "D"	Flow Capacity*
822M	2-Way	822M-198	55
823M	3-Way	823M-198	55
824M	4-Way	824M-198	55

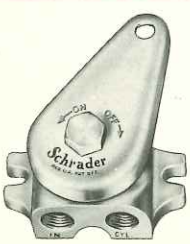
NOTE: PORTS A, B, C, D on 4-WAY Valve
PORTS A, B, C on 3-WAY Valve
PORTS B, C on 2-WAY Valve
Any Port on 2 or 4-Way can be inlet port.
Port C on 3-Way is inlet—Port A is exhaust.

BASIC REPLACEMENTS FOR ABOVE VALVES





THREE-WAY VALVE WITH LEVER



Schrader No. 3103 Valve with Lever for hand or mechanical operation—has positive stops. Handy for operating small, single-acting cylinders, pilot valves, etc.

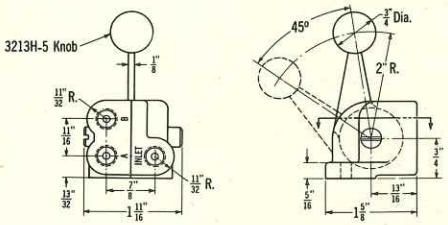
*Based on cu. ft. of free air per minute at 100 P.S.I. inlet pressure.

Schrader
REG. U.S. PAT. OFF.

Sliding Seal Control Valves Two, Three and Four-way Valves

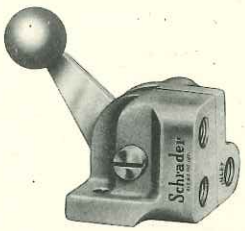
These valves have similar component features as described on the preceding page, but differ slightly in dimensions and exhaust port details. They provide versatility in control valve actuating methods and convenient positioning. . . . Hand, lever, mechanical reciprocating, guarded foot, even knee or elbow actuation. Basic valve parts are interchangeable . . . easy and economical to service.

VALVES WITH HAND LEVER

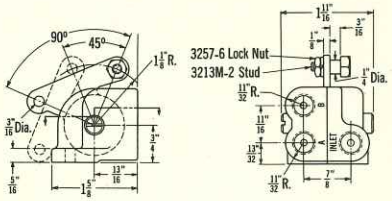


Knob on lever makes hand operating quick, easy, comfortable.

Schrader Number	Type	Disc Assembly D	Flow Cap'y. (Cu.Ft.)*
3212H	Two-Way	3212H–198	10
3213H	Three-Way	3213H–198	10
3214H	Four-Way	3214H–198	10

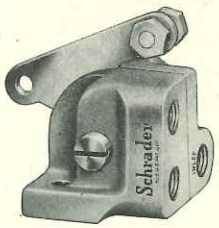


VALVES WITH MECHANICAL LEVER

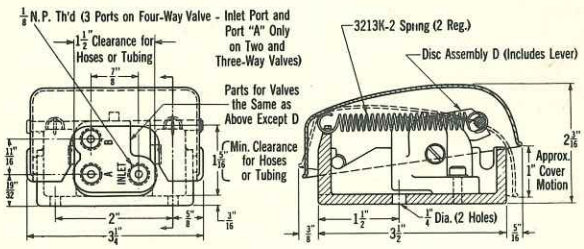


Designed for machine operation, rugged steel lever stands up under rapid actuation over long periods of use.

Schrader Number	Type	Disc Assembly D	Flow Cap'y. (Cu.Ft.)*
3212M	Two-Way	3212M–198	10
3213M	Three-Way	3213M–198	10
3214M	Four-Way	3214M–198	10



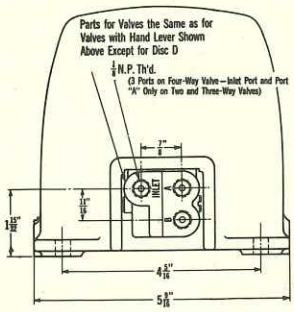
ALL PURPOSE LEVER WITH SPRING RETURN

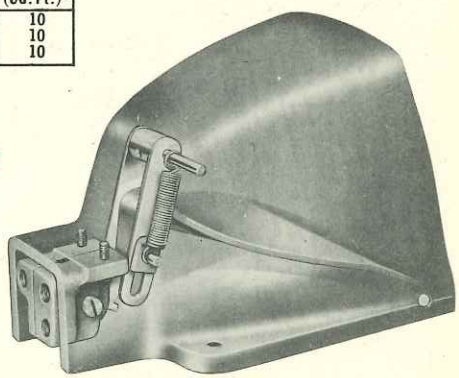

N.P. Th'd (3 Ports on Four-Way Valve - Inlet Port and Port "A" Only on Two and Three-Way Valves)
Clearance for Hoses or Tubing
Parts for Valves the Same as Above Except D
Min. Clearance for Hoses or Tubing
3213K-2 Spring (2 Reg.)
Disc Assembly D (Includes Lever)
Approx. 1" Cover Motion
Dia. (2 Holes)

Two Springs return the valve to normally closed position after each actuation—handy for hand, foot or knee operation.

Schrader Number	Type	Disc Assembly D	Flow Cap'y. (Cu. Ft.)*
3212K	Two-Way	3212K–197	10
3213K	Three-Way	3213K–196	10
3214K	Four-Way	3214K–197	10

VALVES WITH FOOT LEVER AND GUARD


Parts for Valves the Same as for Valves with Hand Lever Shown Above Except for Disc D
N.P. Th'd. (3 Ports on Four-Way Valve—Inlet Port and Port "A" Only on Two and Three-Way Valves)
INLET



Light weight, portable, fully protected—available with or without lock down feature. One Step Type—actuates and closes when foot lever is depressed and released. Two Step Type—Lever locks down in open position until depressed the second time to close valve.

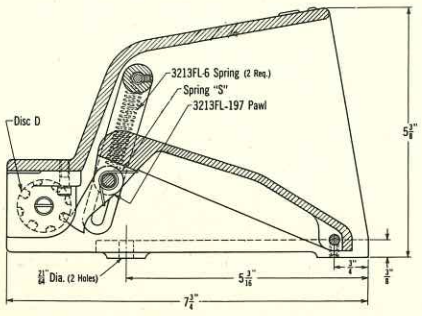
SERIES "F" VALVES
(One-step operation)

Schrader Number	Type	Disc D	Spring S	Flow Cap'y (Cu. Ft.)*
3212F	Two-Way	3212F-12	3212F-13	10
3213F	Three-Way	3213F-12	3212F-13	10
3214F	Four-Way	3214F-12	3212F-13	10

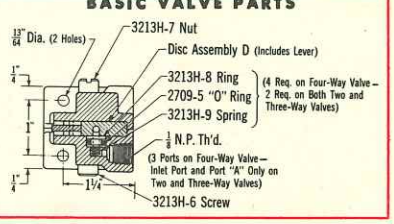
SERIES "FL" VALVES
(Two-step operation)

Schrader Number	Type	Disc D	Spring S	Flow Cap'y (Cu. Ft.)*
3212FL	Two-Way	3212FL-12	3213FL-10	10
3213FL	Three-Way	3213FL-12	3213FL-10	10
3214FL	Four-Way	3213FL-12	3213FL-10	10

*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.



BASIC VALVE PARTS


Dia. (2 Holes)
3213H-7 Nut
Disc Assembly D (Includes Lever)
3213H-8 Ring
2709-5 "O" Ring
3213H-9 Spring
(4 Req. on Four-Way Valve – 2 Req. on Both Two and Three-Way Valves)
N.P. Th'd.
(3 Ports on Four-Way Valve – Inlet Port and Port "A" Only on Two and Three-Way Valves)
3213H-6 Screw

Principles of Two and Three-Way Pilot Valves

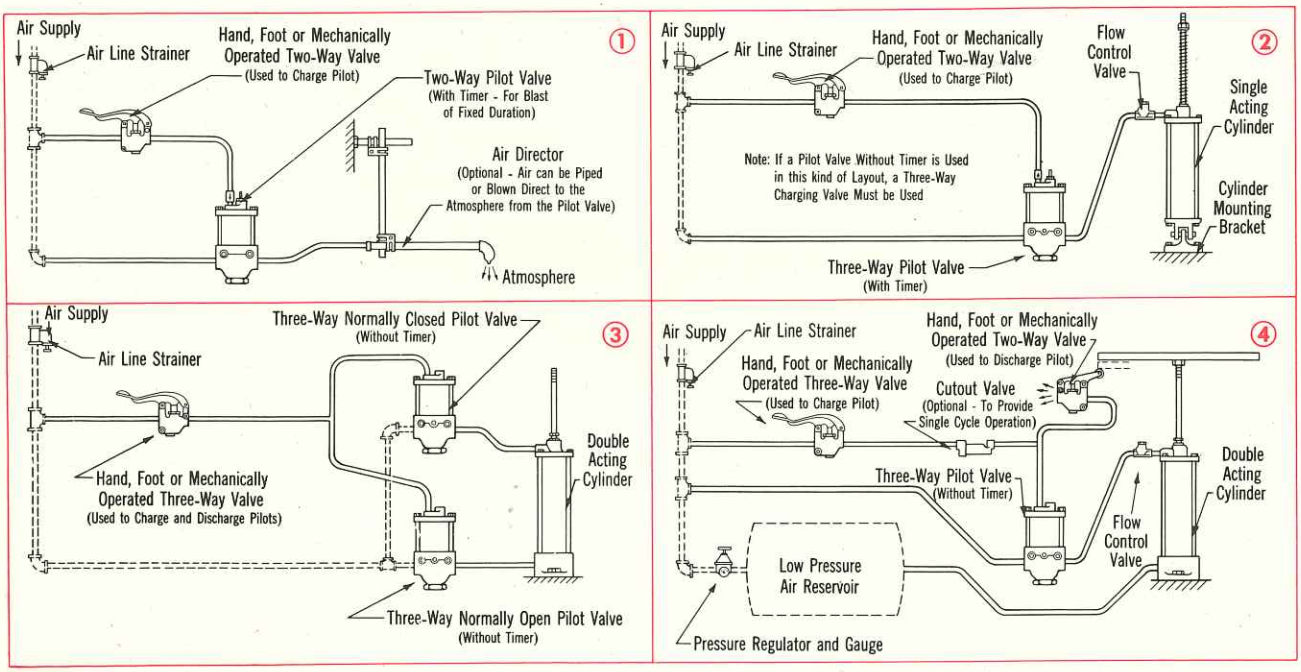
Pilot Valves are normally used for remote control of air systems. Installed in the main air supply line, at the desired point of operation, they will deliver full line flow to a cylinder or other pneumatic device, or to the atmosphere if required. Charging of the pilot cylinder can be accomplished with a relatively small actuating valve thereby reducing air consumption and actuating force required. Thus, with one basic Pilot Valve you have a wide choice of actuation methods; by hand, foot, machine or electricity. See pages 23 to 37 for these actuating valves.

THREE-WAY TYPE WITH TIMER. When actuated, a three-way valve delivers air to a cylinder or other pneumatic device and discharges the air back through the valve when released. With a simple screw driver adjustment the Pilot Valve can be timed to continuously deliver a flow of air from a fraction of a second to several minutes duration after the actuating valve has been operated and released.

THREE-WAY TYPE WITHOUT TIMER. This type Pilot Valve has the same features described above but the duration of flow is dependent upon the actuating valve. The air flow ceases and exhaust action takes place immediately upon release of the actuating valve.

TWO-WAY TYPES WITH OR WITHOUT TIMER. These types deliver air in one direction only and do not have the exhaust feature of the three-way types. The timing features are exactly as described above.

FOUR-WAY TYPE is described on pages 28 to 37.


1
Air Supply
Air Line Strainer
Hand, Foot or Mechanically Operated Two-Way Valve
(Used to Charge Pilot)
Two-Way Pilot Valve
(With Timer - For Blast of Fixed Duration)
Air Director
(Optional - Air can be Piped or Blown Direct to the Atmosphere from the Pilot Valve)
Atmosphere
2
Air Supply
Air Line Strainer
Hand, Foot or Mechanically Operated Two-Way Valve
(Used to Charge Pilot)
Flow Control Valve
Single Acting Cylinder
Note: If a Pilot Valve Without Timer is Used in this kind of Layout, a Three-Way Charging Valve Must be Used
Cylinder Mounting Bracket
Three-Way Pilot Valve
(With Timer)
3
Air Supply
Air Line Strainer
Three-Way Normally Closed Pilot Valve
(Without Timer)
Double Acting Cylinder
Hand, Foot or Mechanically Operated Three-Way Valve
(Used to Charge and Discharge Pilots)
Three-Way Normally Open Pilot Valve
(Without Timer)
4
Air Supply
Air Line Strainer
Hand, Foot or Mechanically Operated Two-Way Valve
(Used to Discharge Pilot)
Hand, Foot or Mechanically Operated Three-Way Valve
(Used to Charge Pilot)
Cutout Valve
(Optional - To Provide Single Cycle Operation)
Double Acting Cylinder
Three-Way Pilot Valve
(Without Timer)
Flow Control Valve
Low Pressure Air Reservoir
Pressure Regulator and Gauge

1. A Two-Way **Normally Closed** Pilot Valve with Timer can be used as shown to deliver a flow of air to the atmosphere for a fixed length of time after a charging valve has been actuated. In applications where the time the air is flowing is greater than the time it is shut off, or where the time the air is shut off is more critical than the duration of flow, a Two-Way **Normally Open** Pilot Valve with Timer can be used.

2. In this basic layout, a relatively small two-way valve with choice of means of actuation charges the pilot and from there on the cycle is automatic. The pilot valve charges the cylinder, the piston travels down at the speed set on the Flow Control Valve and, after a given time has elapsed, the pilot valve exhausts the cylinder and the piston returns. This type of layout is suitable for either push type or pull type cylinders.

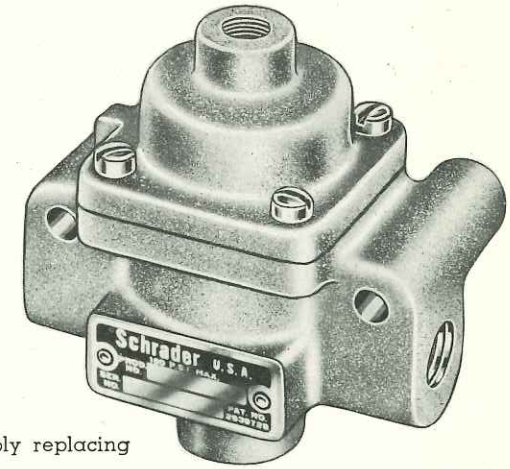
3. In this layout a double acting cylinder is operated by two pilot valves. The valve charging the pilots can be remotely located, and any type of actuation can be used.

4. One pilot valve will operate a double acting cylinder when applied as shown in this sketch. Here the pilot valve charges and discharges one side of the cylinder, while a constantly lower pressure (about 1/4 to 1/2 of line pressure) is maintained on the other side of the cylinder to provide for piston return. If a Cutout Valve (see page 46) is not used in this layout, a two-way valve must be used to charge the pilot instead of the three-way valve shown.

Three-Way Pilot Valves

Normally Open and Normally Closed

1/4, 3/8, 1/2, 3/4 and 1" N.P.T. Port Sizes



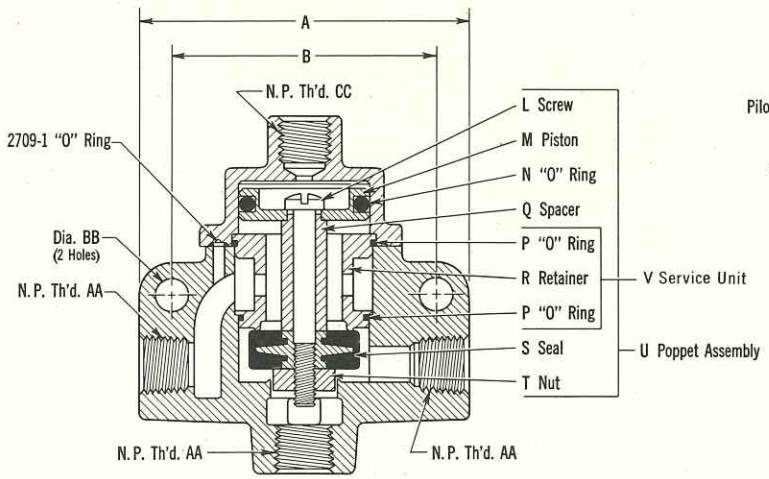
These pilot valves, in either normally closed or normally open type, are ideal for operating single-acting cylinders. Compact size, sturdy construction and simplicity of parts assure longest service life and neatness of air system installations. Your choice of actuating valves to load and relieve the pilot can be made from the number of 3-way valves throughout this catalog.

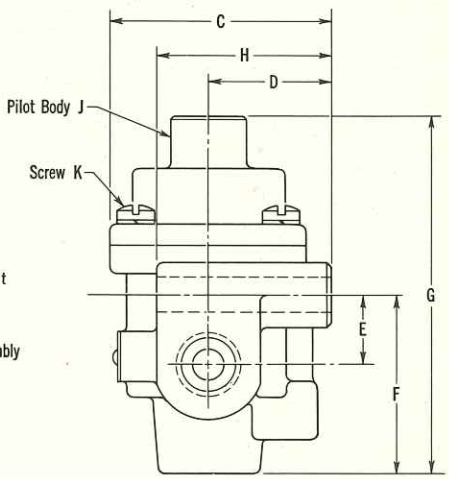
NOTE: These valves may be converted to solenoid type by simply replacing the pilot chamber with a solenoid head.

PILOT VALVES

Schrader Number	Normal Position	N. P. Th'd. AA	Dia. BB	N. P. Th'd. CC	Dimensions (Inches) A	B	C	D	E	F	G	H	Flow* Capacity
972P 982P	Closed Open	1/4	17/64	1/8	3 1/16	2 7/16	2 3/16	1 7/32	9/16	1 19/32	3 5/16	1 21/32	60
973P 983P	Closed Open	3/8	25/64	1/4	3 3/4	3	2 1/2	1 3/8	13/16	2 1/16	4 1/8	1 31/32	150
974P 984P	Closed Open	1/2	25/64	1/4	3 3/4	3	2 1/2	1 3/8	13/16	2 1/16	4 1/8	1 31/32	185
976P 986P	Closed Open	3/4	25/64	1/4	4 3/8	3 1/2	2 11/16	1 15/32	1 1/16	2 21/32	4 25/32	2 5/16	370
978P 988P	Closed Open	1	25/64	1/4	4 3/8	3 1/2	2 11/16	1 15/32	1 1/16	2 21/32	4 25/32	2 5/16	400

*Based on cu. ft. of free air per minute at 100 P.S.I. inlet pressure.





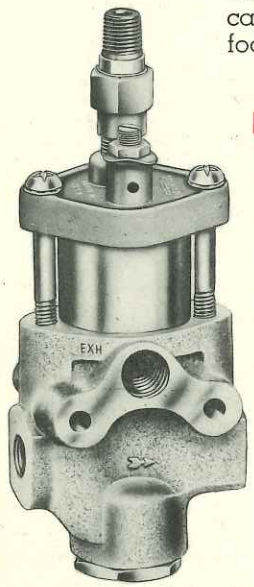
PILOT VALVE REPLACEMENT PARTS

Schrader Number	J Body	K Screw (4 Req'd)	L Screw	M Piston	N "O" Ring	P "O" Ring (2 Req'd)	Q Spacer	R Retainer	S Seal	T Nut	U Poppet Assembly	V Service Unit
972P 982P	972P-1	3402-8A	3402-22B	972S-4	2709-19	3454-12	972S-5	972S-3	972S-194	972S-6	972S-195	972S-100
973P 983P	974P-1	3389-7A	3389-25B	974S-4	2709-23	3454-16	974S-5	974S-3	974S-194	974S-6	974S-195	974S-100
974P 984P	974P-1	3389-7A	3389-25B	974S-4	2709-23	3454-16	974S-5	974S-3	974S-194	974S-6	974S-195	974S-100
976P 986P	978P-1	3389-9A	3389-27B	978S-4	2709-27	3454-29	978S-5	978S-3	978S-194	978S-6	978S-195	978S-100
978P 988P	978P-1	3389-9A	3389-27B	978S-4	2709-27	3454-29	978S-5	978S-3	978S-194	978S-6	978S-195	978S-100

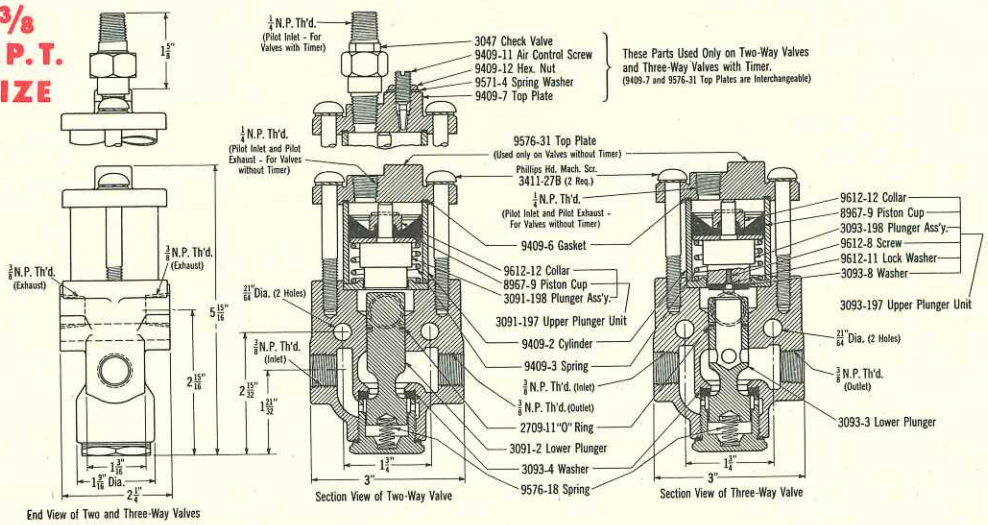
Two- and Three-way Pilot Valves

Normally Closed / With and Without Adjustable Timer

These Pilot Valves incorporate all the features described on page 38 and are recommended for actuating large bore cylinders and other pneumatic devices requiring a large volume of air flow. The poppet type seats used on all Schrader Pilot Valves are carried through in this larger size series, assuring the positive air tight seal at all pressures characteristic of poppet valves. Pilots offer the only practical means of actuating valves of this capacity due to the large forces required to open the poppet by hand, foot or other means.



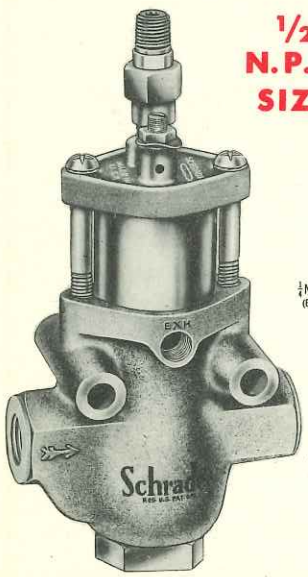
3/8 N.P.T. SIZE



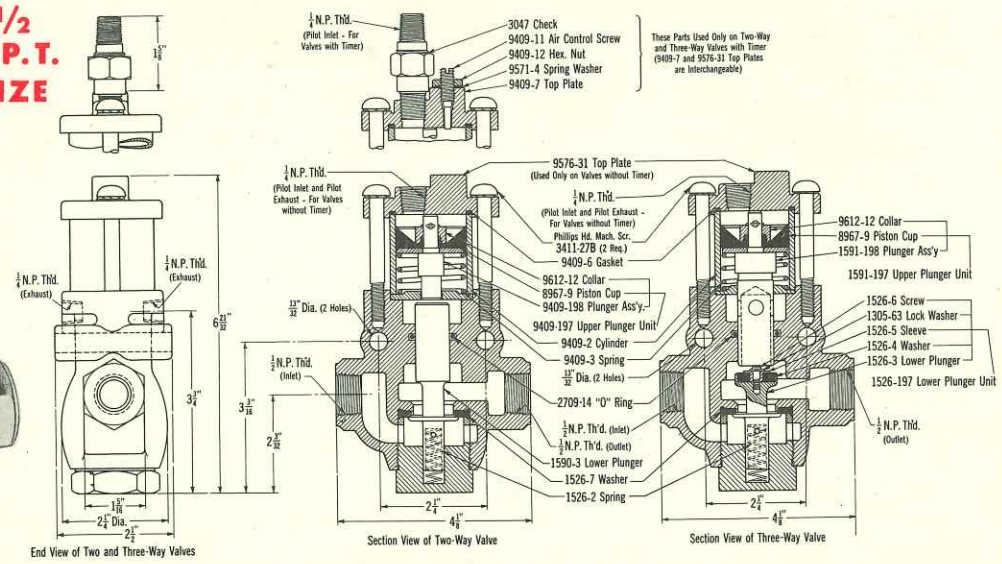
Schrader Number	Type	N. P. Th'd.	Flow* Cap'y. (Cu. Ft.)	Operating** Pressure (p.s.i.)
3091	Without Timer	⅜	170	65
3092	With Timer	⅜	170	65

◄ TWO-WAY THREE-WAY ►

Schrader Number	Type	N. P. Th'd.	Flow* Cap'y. (Cu. Ft.)	Operating** Pressure (p.s.i.)
3093	Without Timer	⅜	170	65
3094	With Timer	⅜	170	65



1/2 N.P.T. SIZE


1⅝"
¼ N.P. Th'd. (Pilot Inlet - For Valves with Timer)
3047 Check
9409-11 Air Control Screw
9409-12 Hex. Nut
9571-4 Spring Washer
9409-7 Top Plate
These Parts Used Only on Two-Way and Three-Way Valves with Timer (9409-7 and 9576-31 Top Plates are Interchangeable)
¼ N.P. Th'd. (Pilot Inlet and Pilot Exhaust - For Valves without Timer)
9576-31 Top Plate (Used Only on Valves without Timer)
¼ N.P. Th'd. (Pilot Inlet and Pilot Exhaust - For Valves without Timer)
Phillips Hd. Mach. Scr. 3411-27B (2 Req.)
9409-6 Gasket
9612-12 Collar
8967-9 Piston Cup
9409-198 Plunger Ass'y.
9409-197 Upper Plunger Unit
9409-2 Cylinder
9409-3 Spring
13/32" Dia. (2 Holes)
½ N.P. Th'd. (Inlet)
2709-14 "O" Ring
½ N.P. Th'd. (Inlet)
½ N.P. Th'd. (Outlet)
1590-3 Lower Plunger
1526-7 Washer
1526-2 Spring
¼ N.P. Th'd. (Exhaust)
¾ N.P. Th'd. (Exhaust)
6 21/32"
3 3/4"
3 3/16"
2 5/32"
2 5/16" Dia.
2 1/2"
End View of Two and Three-Way Valves
4 1/8"
Section View of Two-Way Valve
9612-12 Collar
8967-9 Piston Cup
1591-198 Plunger Ass'y
1591-197 Upper Plunger Unit
1526-6 Screw
1305-63 Lock Washer
1526-5 Sleeve
1526-4 Washer
1526-3 Lower Plunger
1526-197 Lower Plunger Unit
½ N.P. Th'd. (Outlet)
4 1/8"
Section View of Three-Way Valve

Schrader Number	Type	N. P. Th'd.	Flow* Cap'y. (Cu. Ft.)	Operating** Pressure (p.s.i.)
1590 W	Without Timer	½	300	65
1588 W	With Timer	½	300	65

◄ TWO-WAY THREE-WAY ►

Schrader Number	Type	N. P. Th'd.	Flow* Cap'y. (Cu. Ft.)	Operating** Pressure (p.s.i.)
1591 W	Without Timer	½	300	65
1589W	With Timer	½	300	65

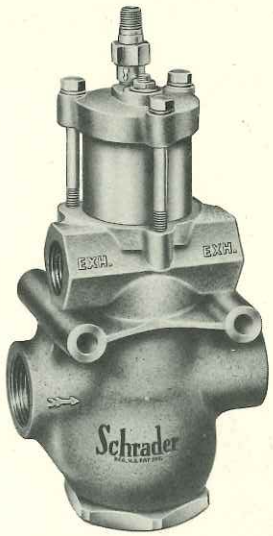
*Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

**Pounds per square inch required to operate pilot with 100 p.s.i. valve inlet pressure.

Schrader
REG. U.S. PAT. OFF.

Two and Three-Way Pilot Valves

Normally Closed



With and Without Adjustable Timer

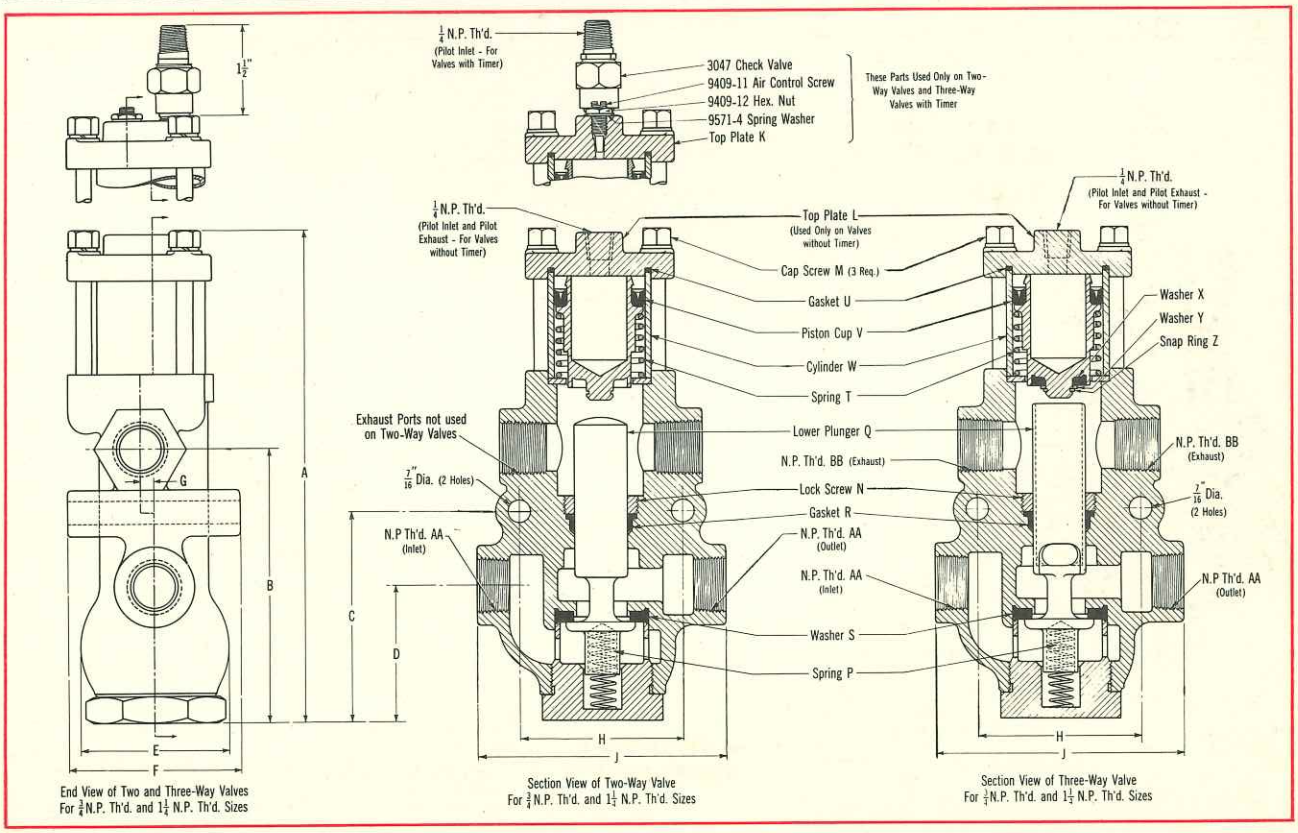
¾ and 1¼ N.P. THREAD SIZES

CHART FOR TWO-WAY PILOT VALVES

Schrader Number	Type	N. P. Th'd. AA	DIMENSIONS (Inches)									REPLACEMENT PARTS												
			A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W
3021	Without Timer	¾	9	5 1/16	3 7/8	2 1/2	2 3/4	3 1/4	1/4	3	4 5/8	None	3025-2	2007-2M	3025-6	3025-8	3021-7	3025-5	3025-4	3025-11	3025-12	3025-24	3025-24	3025-10
3022	With Timer	¾	9	5 1/16	3 7/8	2 1/2	2 3/4	3 1/4	1/4	3	4 5/8	3022-2	None	2007-2M	3025-6	3025-8	3021-7	3025-5	3025-4	3025-11	3025-12	3025-24	3025-24	3025-10
3023	Without Timer	1¼	10	6	4 11/16	3 1/16	3 5/8	3 7/8	7/16	3 5/8	5 5/8	None	3027-2	2007-3D	3027-6	3027-8	3023-7	3027-5	3027-4	3027-11	9576-11	3452-3		2002-2E
3024	With Timer	1¼	10	6	4 11/16	3 1/16	3 5/8	3 7/8	7/16	3 5/8	5 5/8	3024-2	None	2007-3D	3027-6	3027-8	3023-7	3027-5	3027-4	3027-11	9576-11	3452-3		2002-2E

CHART FOR THREE-WAY PILOT VALVES

Schrader Number	Type	N.P. Th'd. AA	N.P. Th'd BB	DIMENSIONS (Inches)									REPLACEMENT PARTS														
				A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
3025	Without Timer	¾	¾	9	5 1/16	3 7/8	2 1/2	2 3/4	3 1/4	1/4	3	4 5/8	None	3025-2	2007-2M	3025-6	3025-8	3025-7	3025-5	3025-4	3025-11	3025-12	3025-24	3025-10	3025-13	3025-25	3025-26
3026	With Timer	¾	¾	9	5 1/16	3 7/8	2 1/2	2 3/4	3 1/4	1/4	3	4 5/8	3022-2	None	2007-2M	3025-6	3025-8	3025-7	3025-5	3025-4	3025-11	3025-12	3025-24	3025-10	3025-13	3025-25	3025-26
3027	Without Timer	1¼	1	10	6	4 11/16	3 1/16	3 5/8	3 7/8	7/16	3 5/8	5 5/8	None	3027-2	2007-3D	3027-6	3027-8	3027-7	3027-5	3027-4	3027-11	9576-11	3452-3	2002-2E	3027-13	3027-24	3027-25
3028	With Timer	1¼	1	10	6	4 11/16	3 1/16	3 5/8	3 7/8	7/16	3 5/8	5 5/8	3024-2	None	2007-3D	3027-6	3027-8	3027-7	3027-5	3027-4	3027-11	9576-11	3452-3	2002-2E	3027-13	3027-24	3027-25


1/4 N.P. Th'd. (Pilot Inlet - For Valves with Timer)
3047 Check Valve
9409-11 Air Control Screw
9409-12 Hex. Nut
9571-4 Spring Washer
Top Plate K
These Parts Used Only on Two-Way Valves and Three-Way Valves with Timer
1/4 N.P. Th'd. (Pilot Inlet and Pilot Exhaust - For Valves without Timer)
Top Plate L (Used Only on Valves without Timer)
Cap Screw M (3 Req.)
Gasket U
Piston Cup V
Cylinder W
Spring T
Exhaust Ports not used on Two-Way Valves
Lower Plunger Q
7/16" Dia. (2 Holes)
N.P. Th'd. BB (Exhaust)
Lock Screw N
Gasket R
N.P Th'd. AA (Inlet)
N.P. Th'd. AA (Outlet)
Washer S
Spring P
1/4 N.P. Th'd. (Pilot Inlet and Pilot Exhaust - For Valves without Timer)
Washer X
Washer Y
Snap Ring Z
N.P. Th'd. BB (Exhaust)
7/16" Dia. (2 Holes)
N.P Th'd. AA (Outlet)
1 1/2"
A
B
C
D
E
F
G
H
J
End View of Two and Three-Way Valves For 3/4 N.P. Th'd. and 1 1/4 N.P. Th'd. Sizes
Section View of Two-Way Valve For 3/4 N.P. Th'd. and 1 1/4 N.P. Th'd. Sizes
Section View of Three-Way Valve For 1/4 N.P. Th'd. and 1 1/4 N.P. Th'd. Sizes

Air flow capacity: ¾ N.P. Th'd. Pilot Valves, 400 cu. ft.; 1¼ N.P. Th'd. Pilot Valves, 600 cu. ft; based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

Pressure required to operate pilot with 100 p.s.i. valve inlet pressure is approximately 65 p.s.i.

Two and Three-Way Pilot Valves

Normally Open

With and Without Adjustable Timer

⅜ and ½ N.P. THREAD SIZES

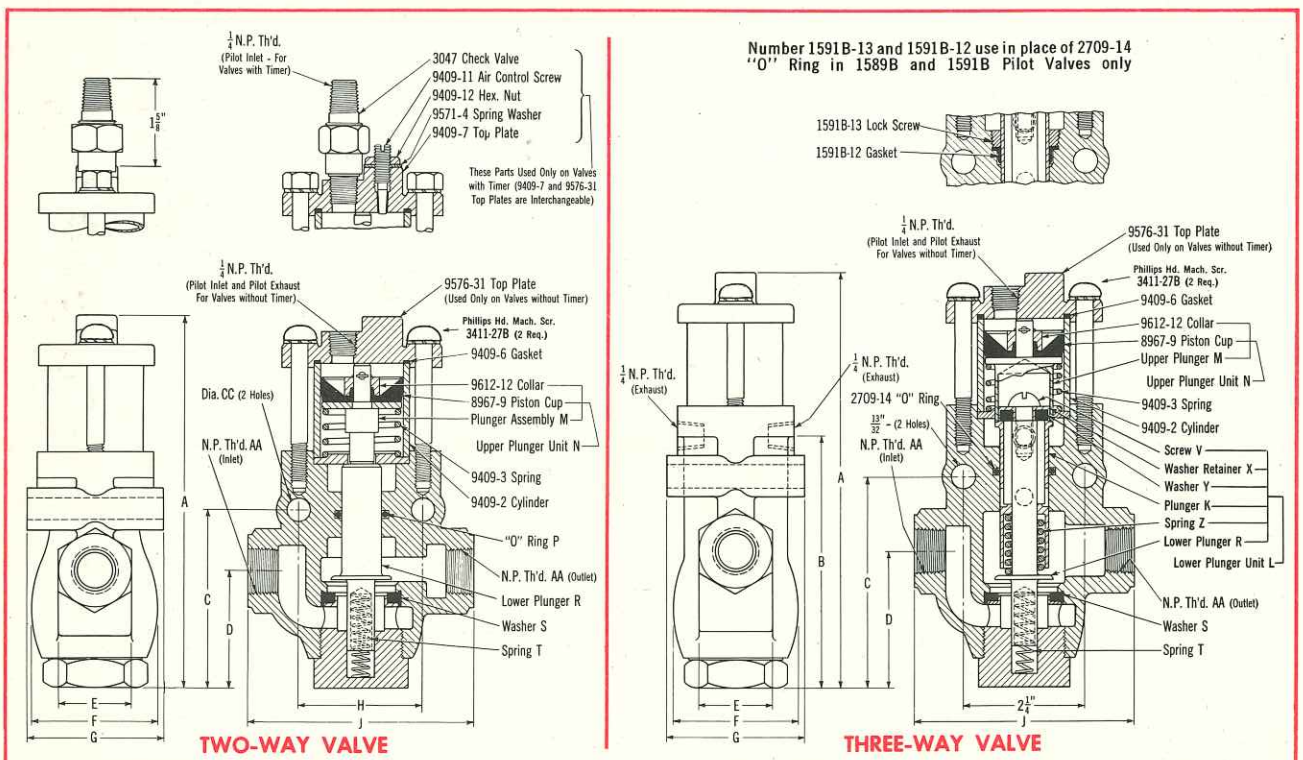
Schrader Normally Open Pilot Valves have all the operating advantages and construction features of the normally closed valves described on the previous three pages. In this type of valve, however, the air normally flows through the valve and shuts off when the pilot cylinder is charged. These valves are particularly applicable in installations where duration of air flow through the valves must be relatively longer than the time the air is shut off.

CHART FOR TWO-WAY PILOT VALVES

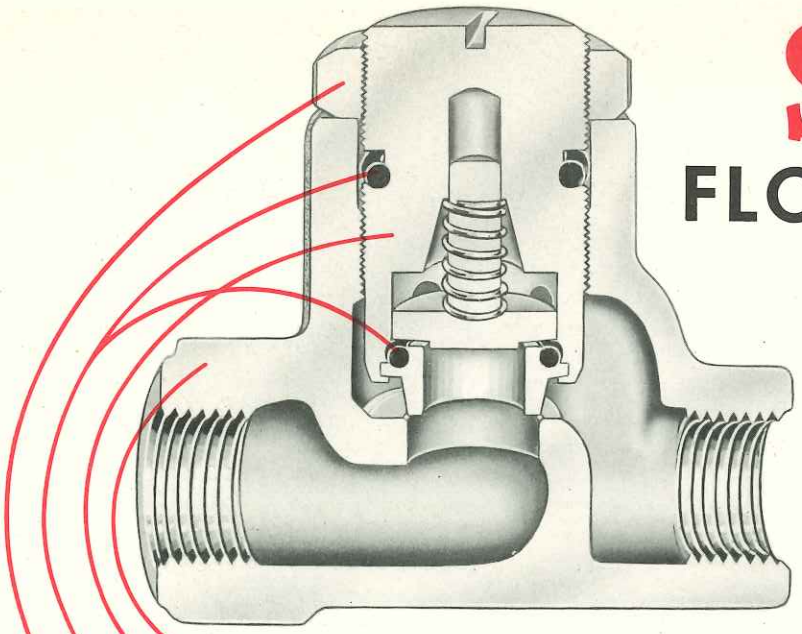
Schrader Number	Type	N. P. Th'd. AA	DIMENSIONS (Inches)									REPLACEMENT PARTS					
			CC	A	C	D	E	F	G	H	J	M	N	P	R	S	T
9409ABW	With Timer	⅜	21/64	5 9/16	2 1/2	1 13/16	1	1 1/2	2 1/4	1 1/2	2 13/16	9409AB-198	9409AB-197	2709-9	9637B-1	7854-7	9409AB-3
9637BW	Without Timer	⅜	21/64	5 9/16	2 1/2	1 13/16	1	1 1/2	2 1/4	1 1/2	2 13/16	9409AB-198	9409AB-197	2709-9	9637B-1	7854-7	9409AB-3
1588BW	With Timer	½	13/32	6 3/4	3 3/16	2 1/8	1 5/16	2 1/4	2 1/2	2 1/4	4 1/8	1139-198	1139-197	2709-14	1590B-3	1526-7	1526-2
1590BW	Without Timer	½	13/32	6 3/4	3 3/16	2 1/8	1 5/16	2 1/4	2 1/2	2 1/4	4 1/8	1139-198	1139-197	2709-14	1590B-3	1526-7	1526-2

CHART FOR THREE-WAY PILOT VALVES

Schrader Number	Type	N.P. Th'd. AA	DIMENSIONS (Inches)								REPLACEMENT PARTS										
			A	B	C	D	E	F	G	J	K	L	M	N	R	S	T	V	X	Y	Z
9636BW	With Timer	⅜	7	4	3 1/2	2 3/16	1	2	2 1/4	3 1/2	9612B-11	9612B-100	9612B-14	9612B-197	9612B-3	2117-7	1526-2	9612B-15	9612B-13	9612B-12	9612B-10
9612BW	Without Timer	⅜	7	4	3 1/2	2 3/16	1	2	2 1/4	3 1/2	9612B-11	9612B-100	9612B-14	9612B-197	9612B-3	2117-7	1526-2	9612B-15	9612B-13	9612B-12	9612B-10
1589B	With Timer	½	7 1/2	4 9/16	3 7/8	2 1/2	1 5/16	2 1/4	2 1/2	4	1591B-7	1591B-100	1591B-14	1591B-197	1591B-5	1526-7	1526-2	1591B-10	1591B-9	1591B-8	1591B-6
1591B	Without Timer	½	7 1/2	4 9/16	3 7/8	2 1/2	1 5/16	2 1/4	2 1/2	4	1591B-7	1591B-100	1591B-14	1591B-197	1591B-5	1526-7	1526-2	1591B-10	1591B-9	1591B-8	1591B-6



Air flow capacity: ⅜ N.P. Th'd. Pilot Valves, 175 cu. ft.; ½ N.P. Th'd. Pilot Valves, 300 cu. ft.; based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.
Pressure required to operate pilot with 100 p.s.i. valve inlet pressure is approximately 65 p.s.i.



Schrader®

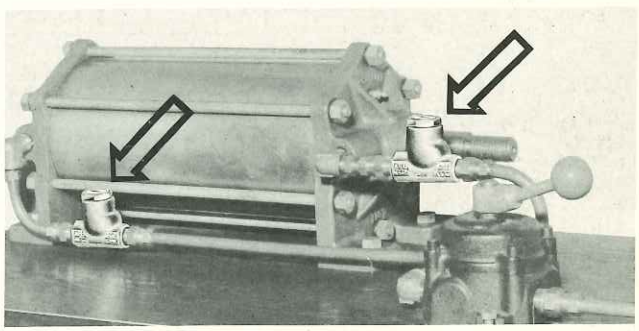
FLOW CONTROL VALVES

- **WIDEST RANGE OF ADJUSTMENTS — for near-perfect control.**
- **GREATEST ACCURACY — adjustment key is not oversensitive to slight adjustment.**
- **RUGGEDNESS AND PRACTICALITY OF DESIGN unsurpassed in the field.**
- **PROVED BY YEARS OF PERFORMANCE in hundreds of plants.**

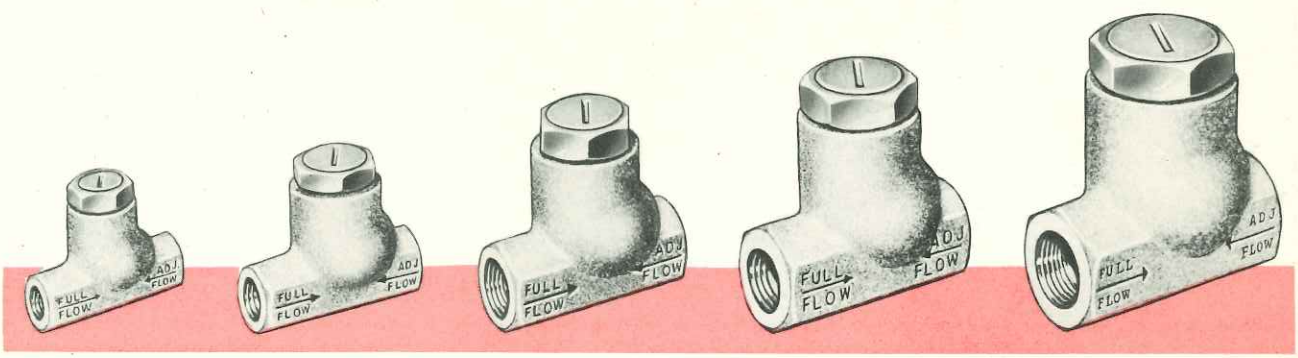
BODY OF CAST BRASS to stand abuse.
COMPACT PLUNGER ASSEMBLY — replaceable in one unit.
"O" RING SEAL — surest airtight performance.
HEAVY DUTY MANSIZED LOCK NUT holds adjustment even under vibration and shock.

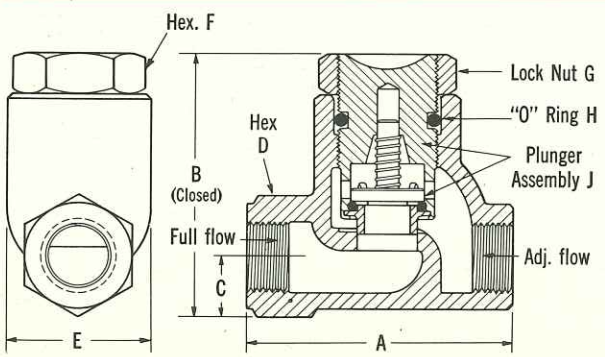
These Schrader Flow Control or Speed Control Valves are the most practical design made for controlling the speed of cylinder piston movement. They provide for a controlled flow rate in one direction. Return air flows at full speed due to an integral poppet by-pass valve. The screw adjustment, with its fine thread, is not oversensitive to slight adjustments, and can be adjusted quickly and accurately. The sturdy lock nut will withstand the rugged, rough treatment encountered in the field.

Flow controls can be used in the inlet port of single acting cylinders to reduce piston speed while maintaining driving force. They are also used in the exhaust ports of double acting cylinders to meter exhaust air and control cylinder piston speed accordingly.



Made of heavy cast brass with stainless steel and brass components, these valves are suitable for air pressures up to 400 psi, and water or oil at pressures up to 800 psi.

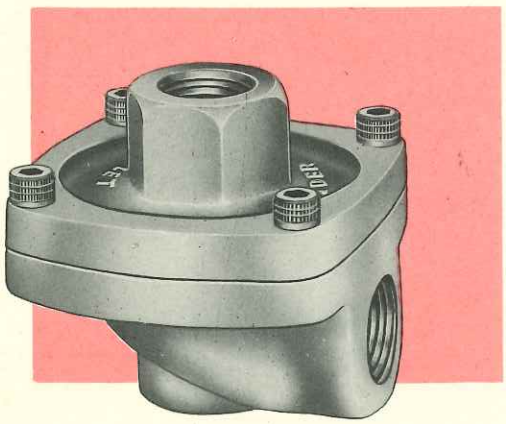




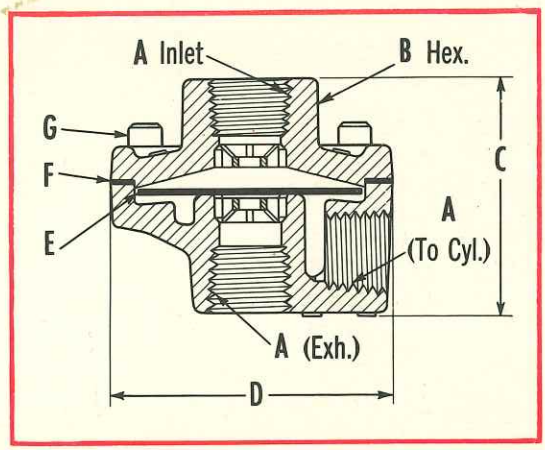
FIVE SIZES TO CHOOSE FROM

Schrader Number	N. P. Threads	Dimensions in Inches						Replacement Parts		
		A	B	C	D	E	F	G	H	J
3250	1/8	1 3/4	1 9/16	3/8	5/8	13/16	11/16	3250-6	2709-8	3250-198
3250A	1/4	2 13/64	1 31/32	7/16	3/4	1 3/32	15/16	3250A-6	2709-12	3250A-198
3250B	3/8	2 21/32	2 7/16	9/16	1	1 3/8	1 3/16	3250B-6	2709-15	3250B-198
3250C	1/2	3 7/64	3 1/16	3/4	1 1/4	1 5/8	1 3/8	3250C-6	2709-18	3250C-198
3250D	3/4	3 9/16	3 11/16	7/8	1 1/2	2	1 3/4	3250D-6	2709-23	3250D-198

Quick Exhaust Valves



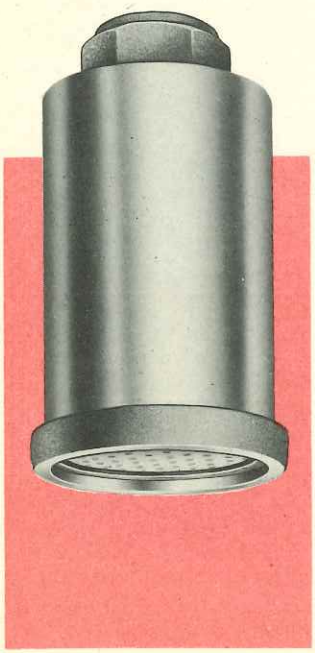
On single or double acting cylinders where maximum piston speed is desired, these valves prove an efficient and easily applied adjunct to the control. Completely automatic — designed for mounting at the cylinder ports to provide immediate passage to the atmosphere for any back pressure tending to hinder piston motion. This "dumping" of exhaust air directly to the atmosphere results in rapid piston action.



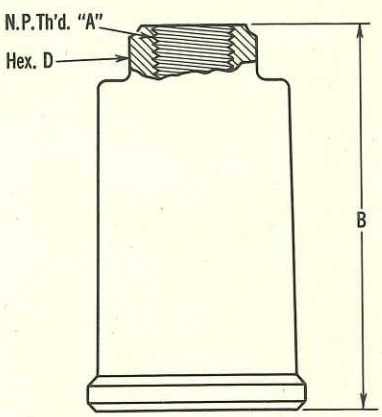
Schrader Number	N. P. Th'd. A	B	C	D	Dia-phragm E	Gasket F	Screws G
3340	⅜	1"	2 1/16"	2 7/16"	3340-3	3340-4	3272-8
3340T*	⅜	1"	2 1/16"	2½"	3340T-3	3340T-4	3272-8
3475	¾	1⅜"	2¾"	3⅜"	3475-4	3475-5	3272-10

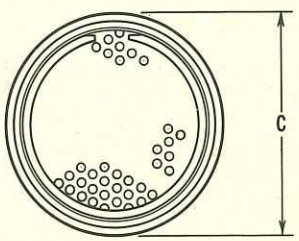
* #3340T has teflon diaphragm for use where excessive heat is encountered.

Air Exhaust Muffler

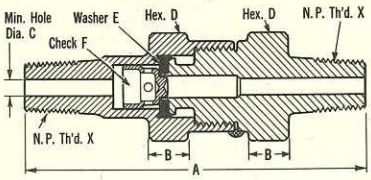


Good plant housekeeping and safety rules demand that noise be eliminated. This muffler acts very much like the silencer on a gun reducing unnecessary noise to a purr — eliminates need for piping air exhausts to outside of building. Less noise means less fatigue and less fatigue means more production.





Schrader Number	A	B	C	D
3062	½	4 21/64"	2¼"	1⅛"
3346	¾	5 5/16"	2⅛"	1½"

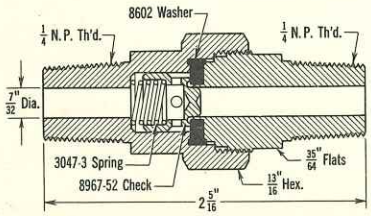


These Schrader Check Valves permit air flow in one direction and check air flow in the opposite direction. Positive, air tight sealing action and long, trouble-free service are assured by the generous seating area between the metal check and an oil resistant washer. All metal parts are made of brass or are heavily plated for corrosion resistance.

Schrader Number	N.P. Th'd X	Dimensions (in.) A	B	C	D	Washer E	Check F	Flow Cap'y (cu. ft.)*
1142	1/4	2 7/8	3/8	5/32	7/8	8967-102	8967-52	35
1142A	3/8	3 5/8	3/8	1/2	1 3/4	1142A-4	1142A-3	150
1142B	1/2	4 3/8	3/8	5/8	1 3/4	1142B-4	1142B-3	190

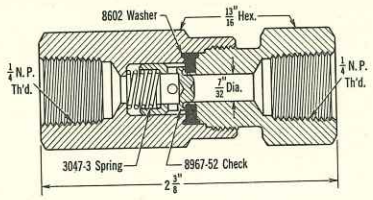
1142 Series

These Schrader Check Valves have the same operating features as the check valves described above, but have a spring loaded check to assure positive sealing action at low pressures as well as at high pressures. The main design feature of this valve is its compactness relative to its large flow capacity. A specially compounded, oil resistant washer provides an ideal seating surface for the spring loaded check. Air flow capacity 35* cu. ft.



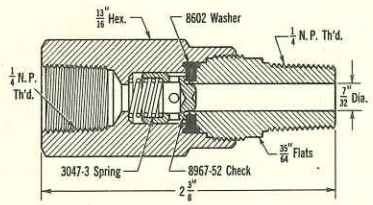
No. 3047

Schrader No. 3047 Check valve—1/4" N. P. T. male on both ends.



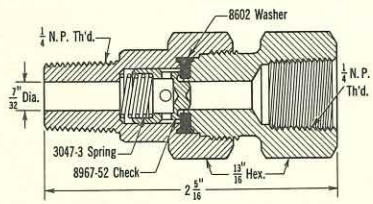
No. 3101

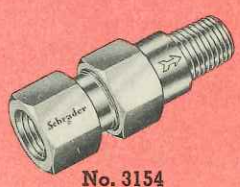
Schrader No. 3101 Check valve—1/4" female N. P. T. on both ends.



No. 3134

Schrader No. 3134 Check valve—1/4" male N. P. T. on inlet end—1/4" female N. P. T. on check unit.





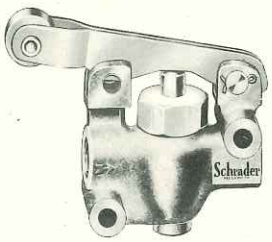
No. 3154

Schrader No. 3154 Check valve—1/4" female N. P. T. on inlet end. 1/4" male N. P. T. on check unit.

*Based on cu. ft. of free air per minute at 100 P.S.I. inlet pressure.

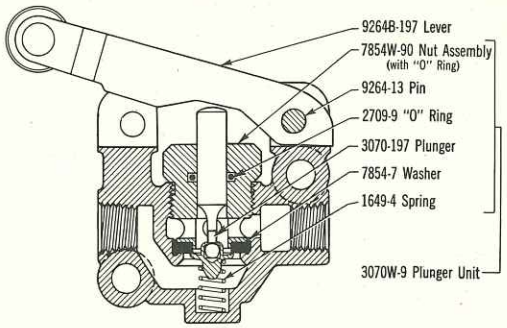
TWO-WAY VALVE FOR LOW PRESSURE

DIMENSIONS SAME AS 9264BW VALVE SHOWN ON PAGE 24



This Schrader Valve features a two-piece self seating plunger which assures high sealing quality at the low pressures for which it was designed. The steel roller-type lever is designed for cam actuation.

No. 3070W—3/8 N.P. Th'd. at inlet and outlet.

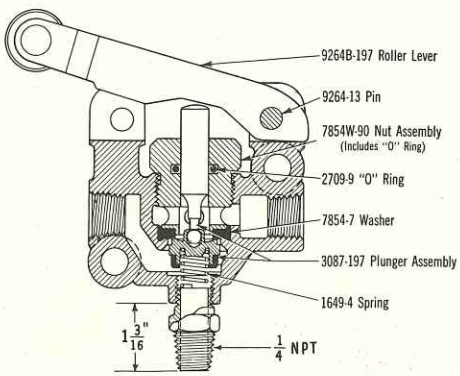


TWO-OUTLET VALVE FOR LOW PRESSURE

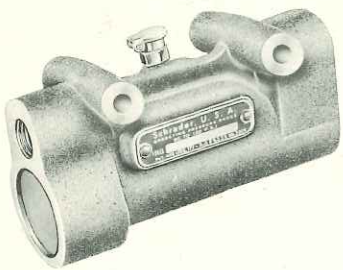
DIMENSIONS SAME AS 9264BW VALVE SHOWN ON PAGE 24

Here is a valve designed for directing a flow of air in either of two directions, or in two directions at once. When the valve is not actuated the 1/4 N.P. Th'd. port is open and the 3/8 N.P. outlet port is closed. When the valve is fully actuated the 1/4 N.P. Th'd. port is closed and the 3/8 N.P. Th'd. port is open. If the valve is semi-actuated both outlet ports are open.

No. 3087W—Two outlet valve—3/8 N.P. Th'd. at inlet.



CUT OUT VALVES



Schrader No. 3004 Cutout Valve is designed for use in any air system where a fixed quantity of air is to be passed on each cycle. The instant the given amount of air has passed through this valve, it cuts out and prevents any additional air from passing until the air ahead (upstream air) of the valve is exhausted. The given amount of air that passes through the Cutout Valve (downstream air) to a cylinder or other pneumatic device must be exhausted by some other means before another cycle can be started.

Schrader No. 3086 Cutout Valve is the same as the No. 3004, but is designed to permit the fixed amount of air that passes through the valve to exhaust back through it, thereby eliminating the need for auxiliary means of exhausting before another cycle can be started.

No. 3004—Cutout Valve—with Back-Pressure Check—1/4 N.P. Th'd. at inlet and outlet.

No. 3086 — Cutout Valve — without Back-Pressure Check—1/4 N.P. Th'd. at inlet and outlet.

No. 8967-70

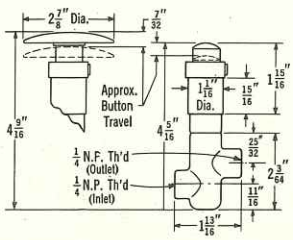
No. 9465-197

THREE-WAY VALVES

These valves are primarily designed for application on Schrader Press Control Sets (see pages 62 to 71). In addition they may be used as compact hand-operated valves for actuating small single-acting cylinders or pilot valves.

No. 8967-70—Three-Way Valve—1/4 N.P. Th'd. at inlet and outlet. Air flow capacity 50 cu. ft.*

No. 9465-197—Three-Way Valve—1/4 N.P. Th'd. at inlet and outlet. Air flow capacity 50 cu. ft.*



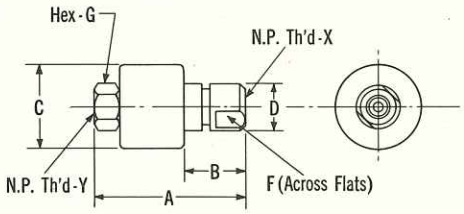
* Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure.

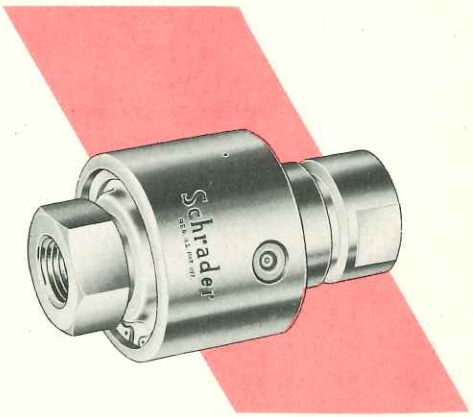
ROTATING PRESSURE JOINTS FOR AIR OR HYDRAULIC INSTALLATIONS

These new high speed Rotating Pressure Joints were designed for air or hydraulic pressures up to 400 p.s.i. and operating speeds up to 5000 revolutions per minute. They provide a pressure tight connection between a rotating member and a fixed unit and make compressed air or hydraulic installations through shafts and axles possible. The ball bearing construction of these sturdy compact pressure joints assures a minimum of rotating friction and long life performance. Available with or without mounting flange.

Rotating Joints without Mounting Flange

These compact, sturdy rotating joints are made with female N.P. Threads at both ends. Available in three sizes with air flow capacities up to 285 cubic feet*, operating pressures up to 400 p.s.i. as charted below. All sizes are suitable for use with 5000 r.p.m. maximum rotating speed.

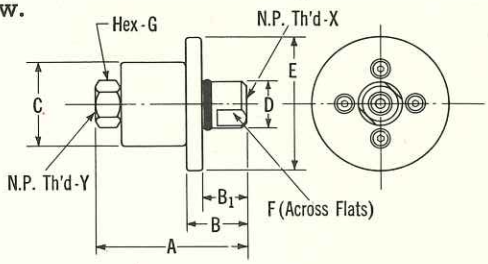


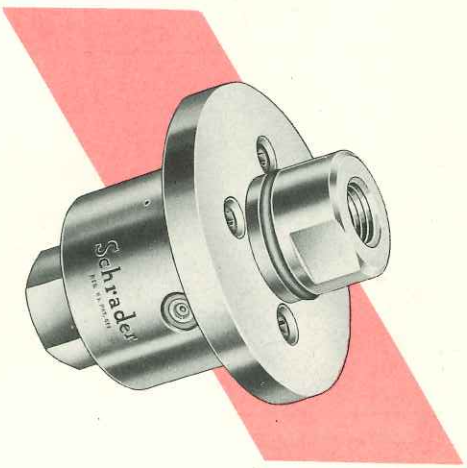


Schrader Number	X	Y	DIMENSIONS SHOWN IN INCHES A	B	C	D**	F	G	Air Operating Pressure	Flow Capacity*
831	⅛ N.P.T.	⅛ N.P.T.	2½	2³⁄₃₂	1⅜	.750	⅝	⅝	Up to 400 p.s.i.	20
832	¼ N.P.T.	¼ N.P.T.	3	1⅛	1⅝	1.000	⅞	⅞	Up to 300 p.s.i.	90
834	½ N.P.T.	½ N.P.T.	3¾	1⅜	2⅛	1.250	1¹⁄₁₆	1¹⁄₁₆	Up to 150 p.s.i.	285

Rotating Joints with Mounting Flange

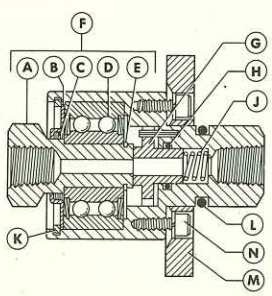
Same as above but equipped with sturdy steel flange and "O" ring seal to provide airtight connection when mounted. Flange must be drilled at time of installation to assure alignment of bolt holes. Flange type applications are recommended to minimize vibrations encountered in high speed operations of 2000 r.p.m. or higher. Installation requires drilling a hole to accommodate "O" ring seal and end of rotating joint as charted below.





Schrader Number	X	Y	DIMENSIONS SHOWN IN INCHES A	B	B1	C	D**	E	F	G	Air Operating Pressure	Flow Capacity*
831F	⅛ N.P.T.	⅛ N.P.T.	2½	2³⁄₃₂	⅝	1⅜	.750	2¼	⅝	⅝	Up to 400 p.s.i.	20
832F	¼ N.P.T.	¼ N.P.T.	3	1⅛	¹³⁄₁₆	1⅝	1.000	2½	⅞	⅞	Up to 300 p.s.i.	90
834F	½ N.P.T.	½ N.P.T.	3¾	1⅜	1	2⅛	1.250	3⅛	1¹⁄₁₆	1¹⁄₁₆	Up to 150 p.s.i.	285

* Based on cu. ft. of free air per minute at 100 p.s.i. inlet pressure. ** Dimensions shown are for size of hole required for Flange Mounting.



ROTATING JOINT REPLACEMENT PARTS

Schrader Number	A Rotor	B Retainer	C Packing	D Ball Bearing	E Retaining Ring	F Rotor Assembly	G Seal Ring	H "O" Ring	J Spring	K Ring	L "O" Ring	M Flange	N Flange Bolt (4 Req'd)
831, 831F	831-2	831-4	831-5	831-6	3365-14B	831-198	831-3	3410-6	831-7	3327-5B	2709-11	831F-1	3271-3
832, 832F	832-2	832-4	832-5	832-6	3365-21B	832-198	832-3	3410-10	832-7	3327-8B	2709-15	832F-1	3271-3
834, 834F	834-2	834-4	834-5	834-6	3365-27B	834-198	834-3	3410-14	834-7	3327-18B	2709-19	834F-1	3272-4

No. 9274

No. 9549

ADJUSTABLE CAMS

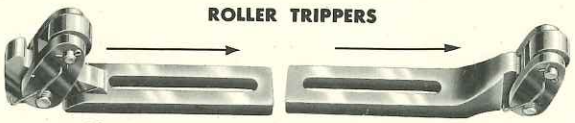
No. 9278

No. 3029

NON-ADJUSTABLE CAMS

ROLLER CAM 1751

ROLLER TRIPPERS



9265S

9314S

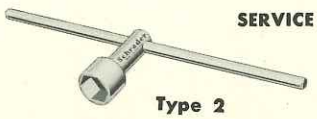
ADJUSTABLE BRACKETS

No. 9312A

No. 9343A

SERVICE TOOLS

Type 1



Type 2

Type 3

Type 4

Cams for Valve Actuation

ADJUSTABLE TYPE No. 9274 —Two-piece cam with markings to aid in setting the time of valve actuation.

No. 9549—Two-piece cam with long dwell for holding valves open longer.

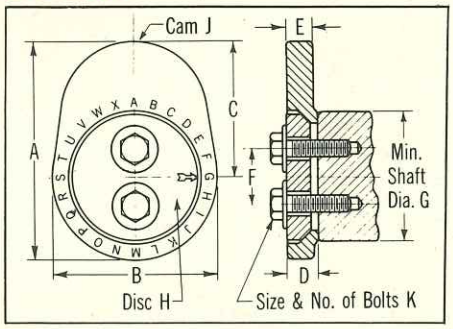
NON-ADJUSTABLE TYPE No. 9278—One piece cam fits on small shafts where only one hole can be drilled.

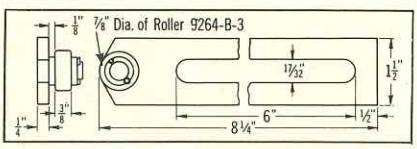
No. 3029—One-piece cam to be used where valve must be kept open for nearly a complete cycle of machine operation.

Packaged complete with bolts and washers.

Schrader Number	DIMENSIONS (Inches) A	B	C	D	E	F	G	H	J	K	L*
9274	4	3	2 1/2	9/16	1/2	1	2 3/8	9274-2	9274-1	2, 5/16"-18NC-2	80°
9549	4	3 3/4	2 1/2	9/16	1/2	1	2 3/8	9274-2	9549-1	2, 5/16"-18NC-2	120°
9278	3 5/16	3 5/16	2 1/2	9/16	1/2	–	1 1/2	None	None	1, 3/8"-16NC-2	180°
3029	4 19/32	5	2 1/2	1/2	1/2	Drill to suit		None	None	2, 3/8"-16NC-2	320°

* Angle of cam rotation through which valve is actuated.

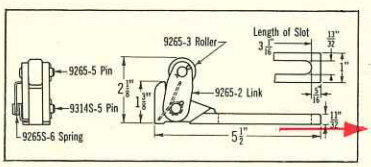




ROLLER CAM. This steel cam, with slotted bracket, permits adjustment to meet various tripping requirements, reduces friction when operating Valves with Solid Angle Lever (page 25) when valve is actuated by a shaft or other rotating member. **No. 1751**—Roller Cam. Packaged with mounting bolts and washers.

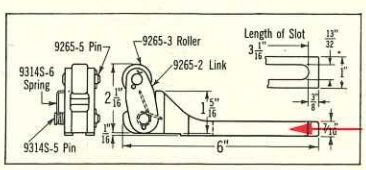
Roller Trippers for Valve Actuation

ROLLER TRIPPERS. These two Roller Trippers operate Valves with Solid Angle Lever (see page 25) from one direction only by slide action. The slot in each type provides maximum latitude for easy mounting.



No. 9265S Roller Tripper —Actuates valve when traveling in arrow direction only.

No. 9314S Roller Tripper —Actuates valve when traveling in arrow direction only.



TOOLS FOR SERVICING VALVES

These tools were designed for your convenience in maintenance work on Schrader Valves as listed in chart below.

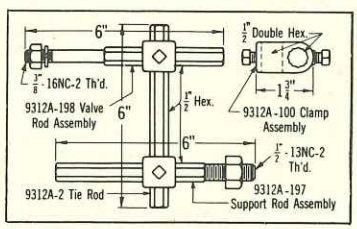
Schrader Number	Type	For use on Valves listed below** (Schrader Number)
1071	3	3162-190, 3162-191, 8967-70, 9465-197.
1072	4	3162-190, 3162-191, 8967-70, 9465-197.
2146	1	2555W.
2177	2	1196W, 1196BW, 1255W, 1415W, 1415AW, 1516W, 1517W, 1521W, 1521AW, 1649W, 1794W, 2178W, 2178BW, 2555W, 7854W, 9264W, 9264W, 9416W, 9586W.

** For valve page number refer to numerical index.

ADJUSTABLE BRACKETS FOR MOUNTING VALVES

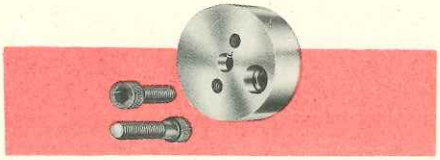
No. 9312A Holds valves in position for cam or roller tripping. Has two clamp assemblies.

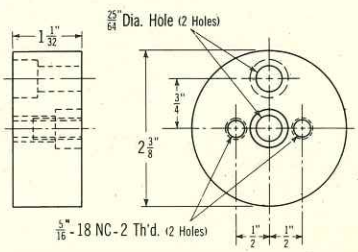
No. 9343A Holds valves in position for cam or roller tripping. Has one clamp assembly.

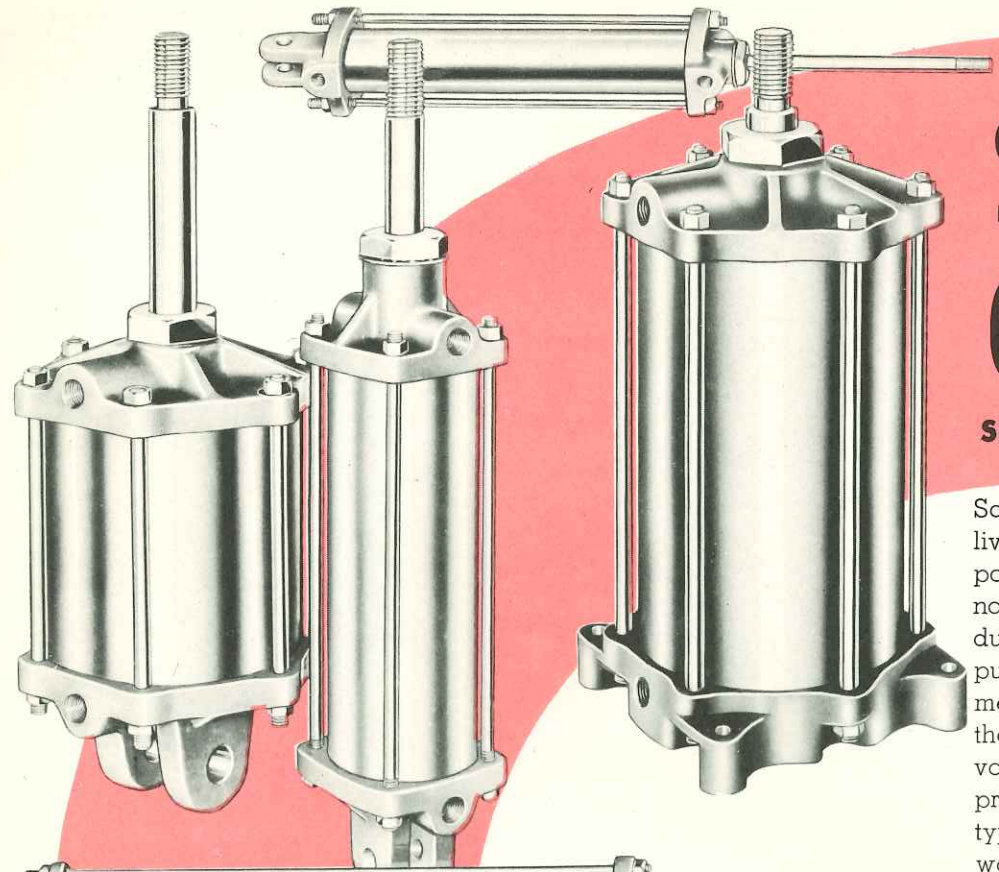


Cam Spacer

When you wish to operate an ejection set valve and a machine control exhaust valve by two cams on the press crankshaft, the Schrader No. 3165 Cam Spacer will properly space the cams.







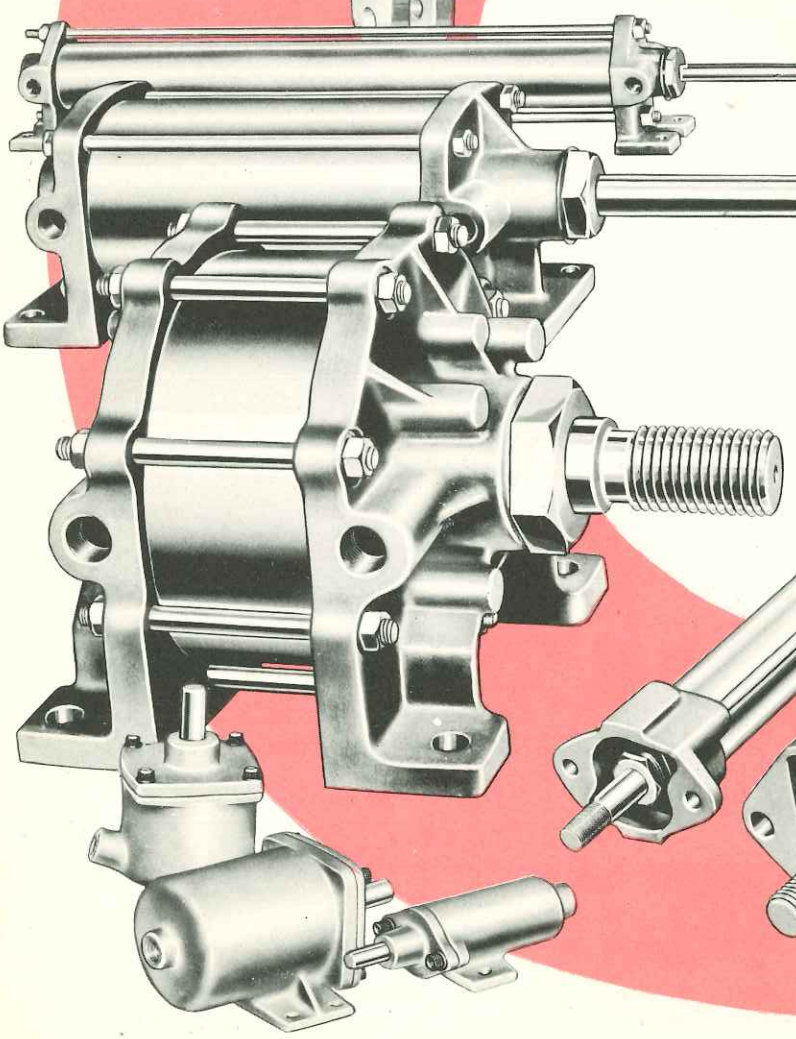
SCHRADER CYLINDERS

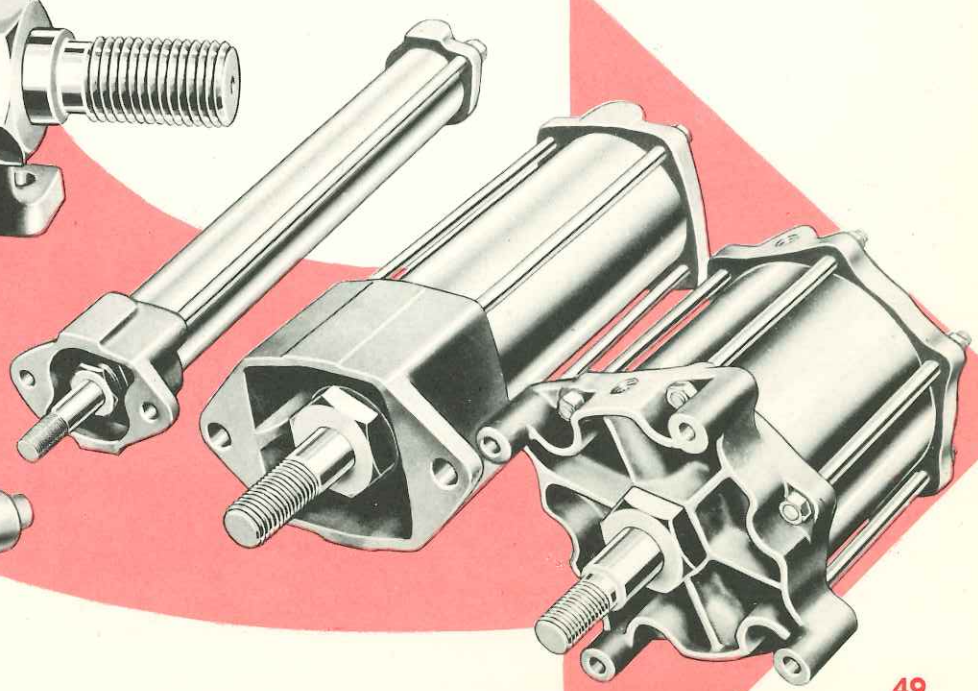
SHOULDER YOUR WORK LOAD

Schrader Air Cylinders are designed to deliver the type of safe, controlled, low-cost power that makes hard work easy, eliminates manual effort and speeds up production. Capable of providing a powerful push, pull, lifting or reciprocating movement, these rugged cylinders will fit into thousands of mechanical applications involving the operation of power presses, press brakes, clutches, hopper gates, all types of doors, material-handling units, work clamps, hoists and other equipment.

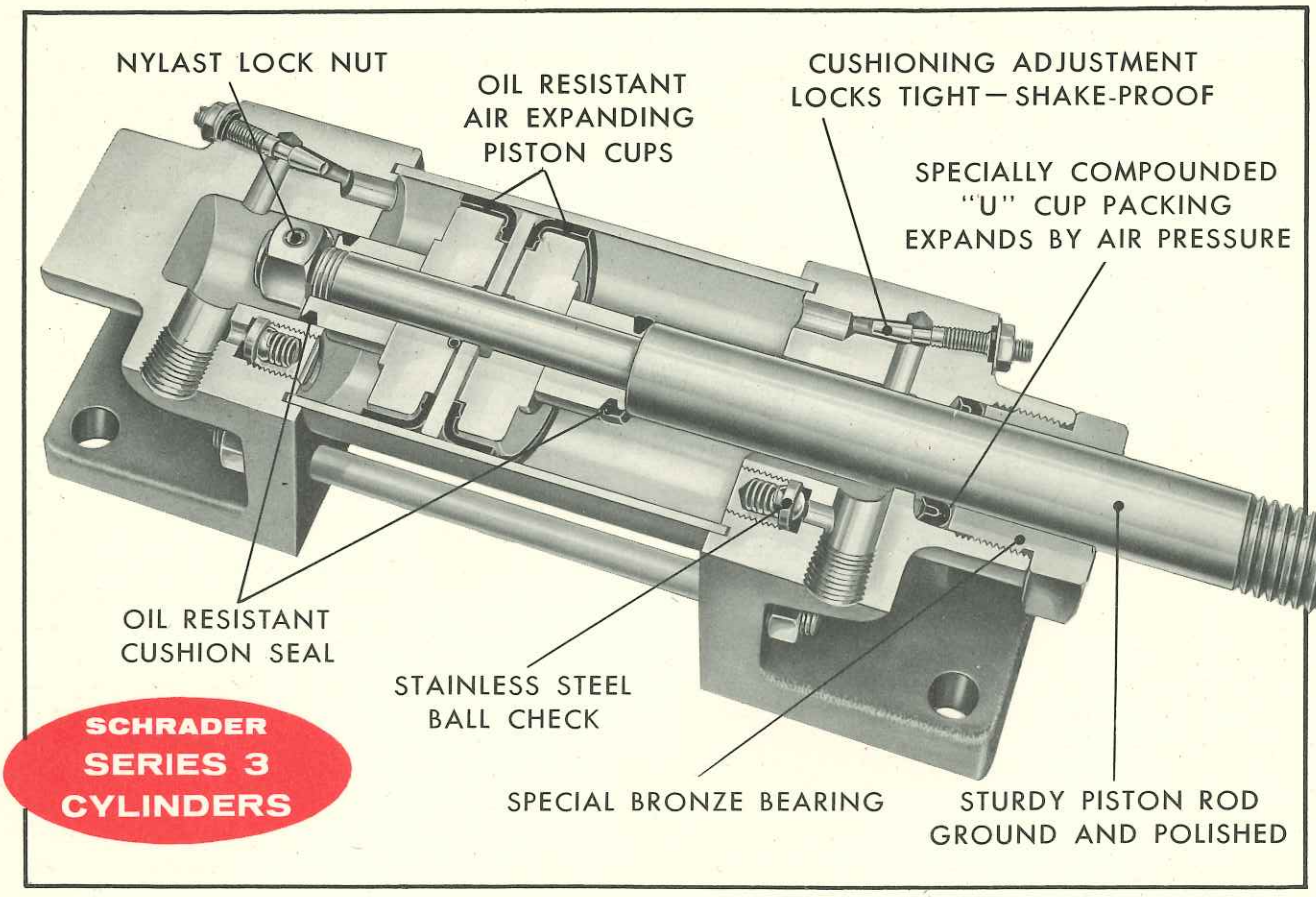
The Schrader line of cylinders offers a wide range of sizes, strokes and mountings in both single and double acting types, with and without cushions.

There is a cylinder to fit your specific requirements and applications. Engineer them into your production setups to get that last ounce of power, speed and efficiency.





Schrader Cylinders are Quality Built


NYLAST LOCK NUT
OIL RESISTANT AIR EXPANDING PISTON CUPS
CUSHIONING ADJUSTMENT LOCKS TIGHT—SHAKE-PROOF
SPECIALLY COMPOUNDED "U" CUP PACKING EXPANDS BY AIR PRESSURE
OIL RESISTANT CUSHION SEAL
STAINLESS STEEL BALL CHECK
SCHRADER SERIES 3 CYLINDERS
SPECIAL BRONZE BEARING
STURDY PISTON ROD GROUND AND POLISHED

Characteristic Schrader quality is built into these cylinders. The ribbed Meehanite end plates incorporated into Schrader cylinders assure resistance to repeated shock. Large air ports provide fast starting action for rapid cycle work. You get strength to spare and speed to burn. And, too, wide interchangeability of parts gives you an added premium in reduced maintenance costs.

Air Cylinders Deliver a Push, or a pull or a Push *and* Pull in any Direction

Schrader Air Cylinders are a source of work that is low in cost, fast in operation, simple to install, and clean to operate. There are probably many places in your plant where repetitive manual operations can be made easier and more profitable by utilizing the "muscles" of an air cylinder. Machine designers welcome the ruggedness of these cylinders as a strong trouble-free feature of their machines.

Made in both Single and Double acting versions, a variety of mounting methods are provided to best suit your needs. Cylinder bores range from 1" to 8", giving forces from several pounds to over 2 tons. Stroke lengths are limited mainly by the scope of handling and packing. Many of these cylinders can be furnished cushioned as well as non-cushioned.

The combination of far-sighted engineering and careful craftsmanship brings you a cylinder of high performance and durability. Cylinder sleeves up to 4 inch bore are heavy walled brass, while the steel tubing of the 6 inch and 8 inch bores has its interior ground, chrome plated and honed. Extra sized precision ground steel piston rods travel in large, long-wearing bronze bushings. The interchangeability of parts between cylinders will be an operating aid to your plant.

Forces Delivered by Schrader Air Cylinders

. . . in Pounds at Various Air Line Pressures

Cyl. Bore Dia. (in.)	Direction of Stroke	Air Line Pressure in Pounds per Square Inch (Gauge)										Work Area (Sq. in.)	Air Consumed* per Inch of Stroke
		30	40	50	60	70	80	90	100	110	120		
1	Push	19	26	34	41	47	56	64	73	81	88	0.785	0.0035
	Pull	16	23	28	35	42	48	55	62	70	77	0.675	0.0030
1½	Push	43	59	76	93	111	128	145	166	182	200	1.767	0.0080
	Pull	38	52	67	83	99	114	127	146	163	179	1.571	0.0071
2	Push	77	105	135	166	198	229	260	292	325	358	3.141	0.0142
	Pull	70	95	121	150	178	206	234	263	293	323	2.835	0.0128
2¼	Push	98	134	170	211	250	288	328	369	411	454	3.976	0.0180
	Pull	90	124	157	194	231	267	303	342	380	419	3.670	0.0166
3	Push	174	237	304	374	446	514	585	656	731	807	7.068	0.0319
	Pull	154	211	270	332	396	458	520	584	650	716	6.283	0.0284
3½	Push	236	323	414	508	606	699	796	895	990	1095	9.621	0.0435
	Pull	216	296	380	467	556	641	730	821	914	1009	8.836	0.0389
4	Push	308	422	540	665	790	947	1040	1170	1300	1433	12.56	0.0570
	Pull	288	395	506	622	741	856	975	1095	1218	1342	11.78	0.0532
6	Push	695	950	1215	1490	1780	2060	2340	2630	2920	3220	28.27	0.128
	Pull	665	910	1160	1430	1705	1965	2235	2515	2795	3085	27.05	0.122
8	Push	1240	1690	2160	2680	3170	3660	4160	4670	5210	5840	50.26	0.227
	Pull	1160	1580	2030	2490	2970	3430	3900	4380	4880	5380	47.12	0.213

*Based on Cubic Feet of Free Air at 100 p.s.i. inlet pressure.

TO ORDER SCHRADER CYLINDERS you simply specify the Schrader number of the cylinder assembly (see pages 52 through 58), and the length of the cylinder stroke in inches.

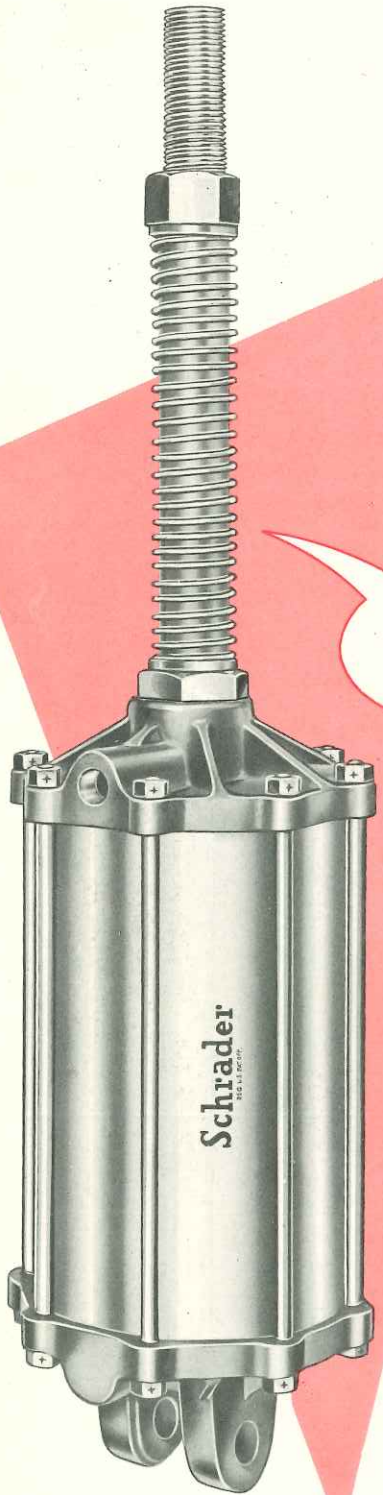
TO DETERMINE THE CYLINDER BORE DIAMETER that will deliver the force you require, refer to the chart above. The force data shown are actual values, based on SERIES 3 cylinder performance, and include an allowance for friction-loss within the cylinder under normal conditions of lubrication and alignment.

It is important that you select a large enough cylinder to perform your job, yet too big a one uses excess air. Once you have decided on the force needed, determine the lowest air pressure that you will have available and let that be a guide to the cylinder size as selected from the above chart.

Single Acting Cylinders

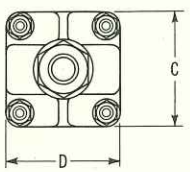
Bolt Mounted

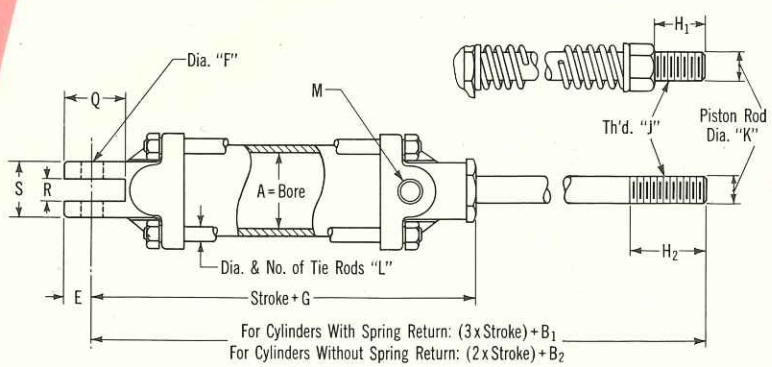
PULL TYPE



Schrader Pull Type Cylinders will give you greatest economy in applications requiring a powered stroke in one direction only. You save air and require only a Three-Way Valve to operate these cylinders. They are ideal for pulling clutches, levers and doors; for hoisting, clamping and indexing and for any "hinged" or pivoted application. These cylinders are available in all strokes. Cylinders with more than 5 inch stroke are not supplied with spring return.

SPRING RETURN WITH CYLINDERS UP TO 5 INCH STROKE





PARTS EASILY REPLACED SEE PAGE 78

CYLINDERS SHOWN WITH PISTON RODS FULLY EXTENDED Dimensions shown in inches.

Schrader Number	A	B_1	B_2	C	D	E	F	G	H_1	H_2	J	K	L	M	Q	R	S	Mounting Bracket	Clevis
3131	1½	5⅞	5⅞	2½	2⅜	19/32	33/64	3 21/32	⅞	1½	½-20 NF-2	½	2, 5/16	¼ N.P.T.	1 5/16	½	1 3/16	3117	3030-3277
3132	2¼	7 3/16	7 3/16	3⅛	2 13/16	19/32	33/64	4 11/16	1 3/16	1¾	5/8-18 NF-2	5/8	2, 5/16	⅜ N.P.T.	1 5/16	½	1 3/16	3117	3031-3278
3133	3½	11¼	10¼	4 3/16	4 3/16	¾	45/64	6 9/16	2¼	3⅛	1-8 NC-2	1	4, ⅜	½ N.P.T.	1 5/8	¾	1⅞	3118	398

Dimensions with subscript "1" apply to cylinders with spring return.
Dimensions with subscript "2" apply to cylinders without spring return.

When ordering specify Schrader number shown in chart above and stroke desired to the nearest inch.

For the neatest and safest installation of Schrader Bolt Mounted Cylinders we recommend that you use the Mounting Brackets and Clevises designed for them as shown on page 59.

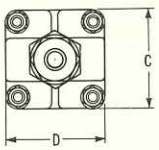
Schrader
REG. U.S. PAT. OFF.

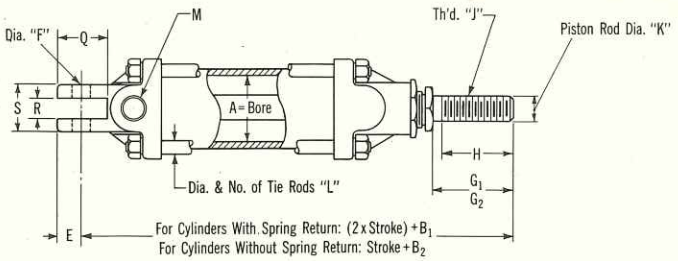
Single Acting Cylinders
Bolt Mounted
PUSH TYPE

These cylinders embody all the design features of the Pull Type Single Acting Cylinders but have **internal** spring return up to and including 5 inch stroke.

These cylinders will provide real air power compactness and economy where certain problems in mounting and approach are encountered, such as ejecting work from dies, automatically pushing or returning a sliding die, overcoming gravity, lifting heavy doors or lids, removing work from a conveyor belt, and many other applications requiring a push power stroke.

SPRING RETURN WITH CYLINDERS UP TO 5 INCH STROKE





CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

Schrader Number	A	B_1	B_2	C	D	E	F	G_1	G_2	H	J	K	L	M	Q	R	S	Mounting Bracket	Clevis
3151	1½	7 1/16	5 7/8	2½	2 3/8	19/32	33/64	2 1/8	1 15/16	1½	½-20 NF-2	½	2, 5/16	¼ N.P.T.	1 5/16	½	1 3/16	3117	3030-3277
3152	2¼	7 3/8	7 3/16	3 1/8	2 13/16	19/32	33/64	2¼	2 1/16	1 3/4	5/8-18 NF-2	5/8	2, 5/16	3/8 N.P.T.	1 5/16	½	1 3/16	3117	3031-3278
3153	3½	11 7/16	10 3/16	4 3/16	4 3/16	¾	45/64	3 13/16	3 9/16	3 1/8	1-8 NC-2	1	4, 3/8	½ N.P.T.	1 5/8	¾	1 7/8	3118	398

Dimensions with subscript "1" apply to cylinders with spring return.
Dimensions with subscript "2" apply to cylinders without spring return.

When ordering specify Schrader number shown in chart above and stroke desired to the nearest inch.

Clevis connections and Mounting Brackets designed for proper installation of these Bolt Mounted Cylinders are shown on page 59. Three-way operating valves can be selected from those shown on pages 23 to 37.

PARTS EASILY REPLACED
SEE PAGE 78

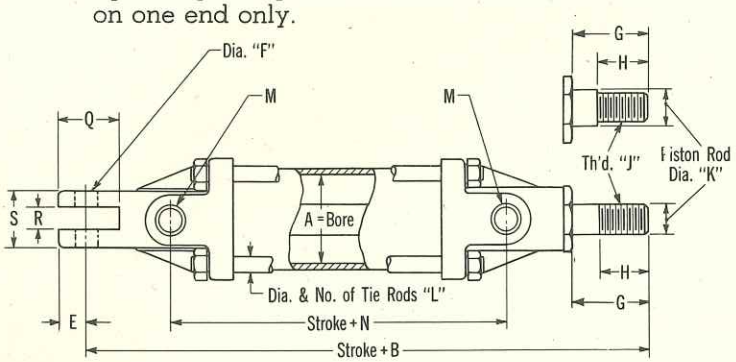
Double Acting Cylinders — Bolt Mounted

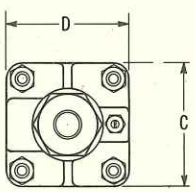
With or Without Adjustable Cushion

PARTS EASILY REPLACED SEE PAGE 78

The one-bolt mounting feature of these cylinders makes them ideal in any application requiring a pivoted motion of the cylinder. Typical of such applications are those in which a cylinder is used for pneumatic hoists and drops, for pushing and pulling levers. and for opening and closing hinged lids. Mounting Brackets and Clevises designed for Schrader Bolt Mounted Cylinders are shown on page 59.

Schrader Double Acting Bolt Mounted Cylinders are available with and without cushion. Cylinders equipped with cushions will prevent pounding where high piston speed and high inertia loads are encountered. The cushion action occurs approximately one inch from the end of the stroke. They are supplied with adjustable cushion at both ends of the stroke. Upon request cylinders can be supplied with cushion on one end only.





WITHOUT CUSHION

CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

Schrader Number	A	B	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	Mounting Bracket	Clevis
3111	1	4 7/8	2 1/16	1 5/8	1/2	33/64	1	1 1/16	3/8-24 NF-2	3/8	2, 1/4	1/8 N.P.T.	1 1/2	—	—	1/2	3033	3276
3171	1 1/2	5 1/2	2 1/2	2 3/8	19/32	33/64	1 11/32	1 5/16	1/2-20 NF-2	1/2	2, 5/16	1/4 N.P.T.	2 1/16	1 5/16	1/2	1 3/16	3117	3030-3277
3112	2	6 15/16	2 9/16	2 9/16	19/32	33/64	1 15/32	1 3/16	5/8-18 NF-2	5/8	4, 5/16	3/8 N.P.T.	2 7/16	1 5/16	1/2	1 3/16	3117	3031-3278
3172	2 1/4	6 15/16	3 1/8	2 13/16	19/32	33/64	1 15/32	1 3/16	5/8-18 NF-2	5/8	2, 5/16	3/8 N.P.T.	2 7/16	1 5/16	1/2	1 3/16	3117	3031-3278
3113	3	9 1/8	3 5/8	3 5/8	3/4	45/64	2 3/16	1 3/4	1-8 NC-2	1	4, 3/8	3/8 N.P.T.	2 3/4	1 5/8	3/4	1 7/8	3118	398
3173	3 1/2	9 1/2	4 3/16	4 3/16	3/4	45/64	2 3/16	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	3 1/16	1 5/8	3/4	1 7/8	3118	398
3174	4	9 1/2	4 15/16	4 15/16	3/4	45/64	2 3/16	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	3 1/16	1 5/8	3/4	1 7/8	3118	398
3176	6	9 1/2	8 1/8	7 3/16	1 1/4	1 1/64	2 7/16	2	1-8 NC-2	1 1/4	6, 7/16	1/2 N.P.T.	3 1/4	2 1/2	1 1/4	3	3166	398
3178	8	13 5/8	9 11/16	9 11/16	1 3/8	1 9/64	4	3 1/2	1 3/4-5 NC-2	2	8, 1/2	3/4 N.P.T.	3 7/8	2 3/4	1 1/2	4	3168	None

WITH ADJUSTABLE CUSHION

CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

Schrader Number	A	B	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	Mounting Bracket	Clevis
3181	1 1/2	7 13/16	2 1/2	2 3/8	19/32	33/64	1 5/16	1 5/16	1/2-20 NF-2	1/2	2, 5/16	1/4 N.P.T.	3 3/16	1 5/16	1/2	1 3/16	3117	3030-3277
3142	2	8 3/4	2 9/16	2 9/16	19/32	33/64	1 7/16	1 3/16	5/8-18 NF-2	5/8	4, 5/16	3/8 N.P.T.	3 13/16	1 5/16	1/2	1 3/16	3117	3031-3278
3182	2 1/4	8 3/4	3 1/8	2 13/16	19/32	33/64	1 7/16	1 3/16	5/8-18 NF-2	5/8	2, 5/16	3/8 N.P.T.	3 13/16	1 5/16	1/2	1 3/16	3117	3031-3278
3143	3	11 3/16	3 5/8	3 5/8	3/4	45/64	2 15/32	1 3/4	1-8 NC-2	1	4, 3/8	3/8 N.P.T.	4 1/8	1 5/8	3/4	1 7/8	3118	398
3183	3 1/2	11 5/16	4 3/16	4 3/16	3/4	45/64	2 1/4	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	4 3/8	1 5/8	3/4	1 7/8	3118	398
3184	4	11 5/16	4 15/16	4 15/16	3/4	45/64	2 1/4	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	4 3/8	1 5/8	3/4	1 7/8	3118	398
3186	6	11 3/8	8 1/8	7 3/16	1 1/4	1 1/64	2 3/8	2	1-8 NC-2	1 1/4	6, 7/16	1/2 N.P.T.	3 15/16	2 1/2	1 1/4	3	3166	398
3188	8	16 5/8	9 11/16	9 11/16	1 3/8	1 9/64	4	3 1/2	1 3/4-5 NC-2	2	8, 1/2	3/4 N.P.T.	5 1/8	2 3/4	1 1/2	4	3168	None

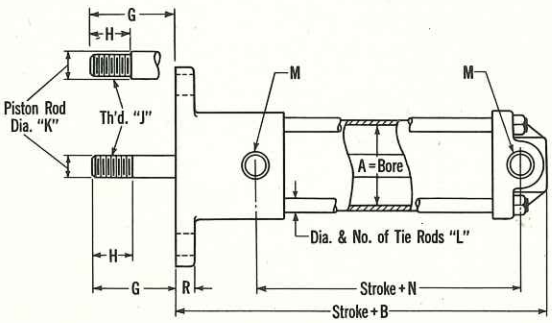
When ordering specify Schrader number shown in chart above and stroke desired to the nearest inch.

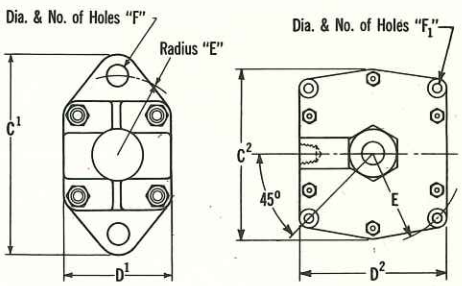
Schrader
REG. U.S. PAT. OFF.

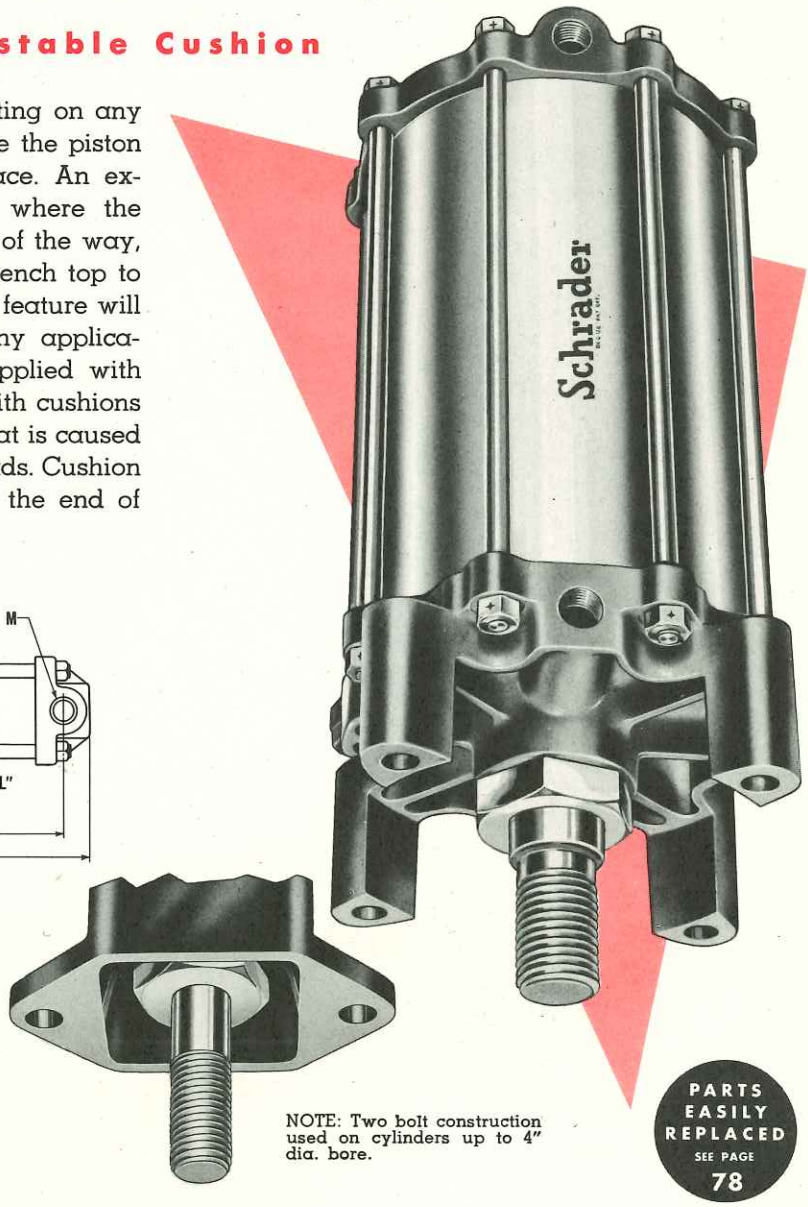
Double Acting Cylinders—Flush Mounted

With or Without Adjustable Cushion

These cylinders are designed for mounting on any flat surface where it is desirable to have the piston rod extend through the mounting surface. An example of this is in bench mounting, where the cylinder proper is under the bench, out of the way, and only the rod extends through the bench top to deliver pushing and pulling power. This feature will simplify mounting requirements in many applications. Flush Mounted Cylinders are supplied with and without cushion. Those equipped with cushions are designed to prevent the pounding that is caused by high piston speed and high inertia loads. Cushion action takes place about an inch from the end of the stroke.







NOTE: Two bolt construction used on cylinders up to 4" dia. bore.

PARTS EASILY REPLACED SEE PAGE 78

WITHOUT CUSHION

CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

Schrader Number	A	B	C¹	C²	D¹	D²	E	F	F₁	G	H	J	K	L	M	N	R	Clevis
3291	1	3 3/8	2 11/16	—	1 1/8	—	1 3/32	2, 9/32	—	1 1/8	11/16	3/8-24 NF-2	3/8	2, 1/4	1/8 N.P.T.	1 9/16	2	3276
3251	1 1/2	3 7/8	3 5/8	—	2 3/8	—	1 3/8	2, 13/32	—	1 15/16	15/16	1/2-20 NF-2	1/2	2, 5/16	1/4 N.P.T.	2 1/16	3/8	3030–3277
3292	2	5 1/16	4 3/4	—	2 9/16	—	1 7/8	2, 17/32	—	2 3/16	1 3/16	5/8-18 NF-2	5/8	4, 5/16	3/8 N.P.T.	2 7/16	7/16	3031–3278
3252	2 1/4	5 1/16	4 7/8	—	2 13/16	—	1 15/16	2, 17/32	—	2 3/16	1 3/16	5/8-18 NF-2	5/8	2, 5/16	3/8 N.P.T.	2 7/16	7/16	3031–3278
3293	3	6 1/4	6 3/8	—	3 5/8	—	2 5/8	2, 21/32	—	2 7/8	1 3/4	1-8 NC-2	1	4, 3/8	3/8 N.P.T.	2 3/4	9/16	398
3253	3 1/2	6 5/8	6 7/8	—	4 3/16	—	2 7/8	2, 21/32	—	2 7/8	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	3 1/16	9/16	398
3254	4	6 5/8	7 5/8	—	4 15/16	—	3 1/4	2, 21/32	—	2 7/8	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	3 1/16	9/16	398
3256	6	6	—	8 1/8	—	7 3/16	4 3/8	—	4, 17/32	3 1/4	2	1-8 NC-2	1 1/4	6, 7/16	1/2 N.P.T.	3 1/4	2 1/8	398
3258	8	8 3/16	—	9 11/16	—	9 11/16	5 1/4	—	4, 25/32	4 11/16	3 1/2	1 3/4-5 NC-2	2	8, 1/2	3/4 N.P.T.	3 7/8	3 1/2	None

WITH ADJUSTABLE CUSHION

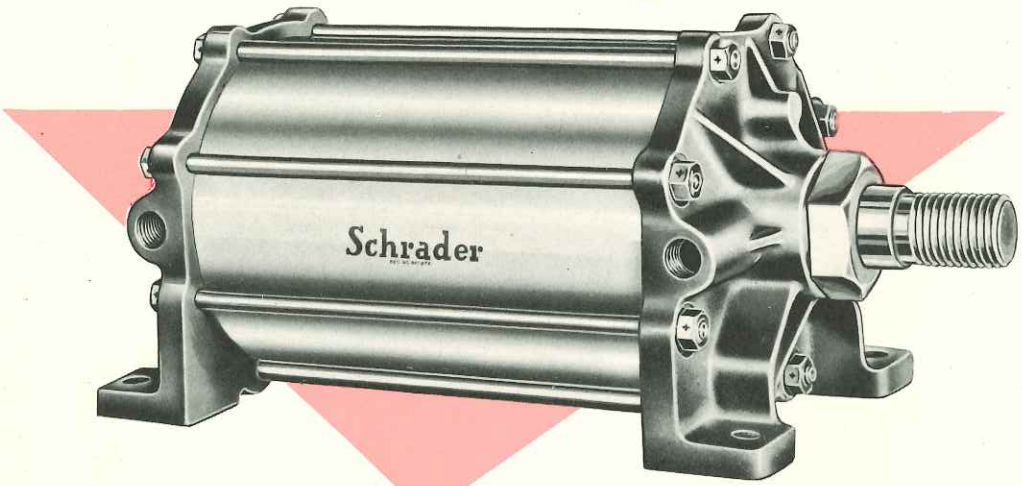
CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

Schrader Number	A	B	C¹	C²	D¹	D²	E	F	F₁	G	H	J	K	L	M	N	R	Clevis
3281	1 1/2	5 15/16	3 5/8	—	2 3/8	—	1 3/8	2, 13/32	—	1 15/16	15/16	1/2-20 NF-2	1/2	2, 5/16	1/4 N.P.T.	3 5/16	3/8	3030–3277
3222	2	7 1/16	4 3/4	—	2 9/16	—	1 7/8	2, 17/32	—	2 3/16	1 3/16	5/8-18 NF-2	5/8	4, 5/16	3/8 N.P.T.	3 13/16	7/16	3031–3278
3282	2 1/4	7 1/16	4 7/8	—	2 13/16	—	1 15/16	2, 17/32	—	2 3/16	1 3/16	5/8-18 NF-2	5/8	2, 5/16	3/8 N.P.T.	3 13/16	7/16	3031–3278
3223	3	8 1/16	6 3/8	—	3 5/8	—	2 5/8	2, 21/32	—	3 5/32	1 3/4	1-8 NC-2	1	4, 3/8	3/8 N.P.T.	4 1/8	9/16	398
3283	3 1/2	8 7/16	6 7/8	—	4 3/16	—	2 7/8	2, 21/32	—	2 15/16	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	4 3/8	9/16	398
3284	4	8 7/16	7 5/8	—	4 15/16	—	3 1/4	2, 21/32	—	2 15/16	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	4 3/8	9/16	398
3286	6	8	—	8 1/8	—	7 3/16	4 3/8	—	4, 17/32	3 1/4	2	1-8 NC-2	1 1/4	6, 7/16	1/2 N.P.T.	3 15/16	3 3/8	398
3288	8	11 7/16	—	9 11/16	—	9 11/16	5 1/4	—	4, 25/32	4 1/8	3 1/2	1 3/4-5 NC-2	2	8, 1/2	3/4 N.P.T.	5 1/8	4 1/8	None

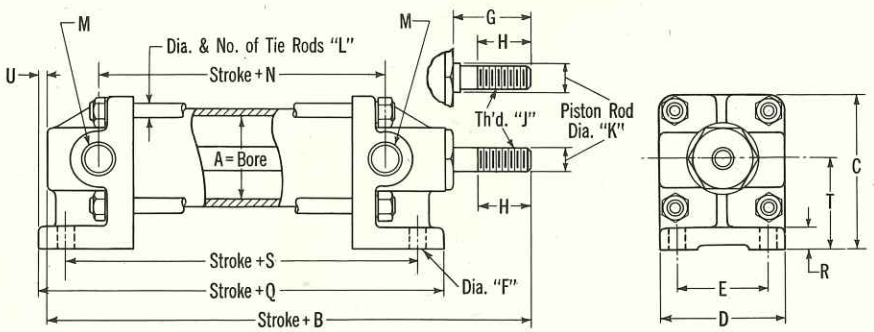
When ordering specify Schrader number shown in chart above and stroke desired to the nearest inch.

Double Acting Cylinders—Leg Mounted

With or Without Adjustable Cushion



These cylinders are designed for applications where the motion of the piston is parallel to the mounting surface. This is of particular advantage where a rigid mounting of the cylinder is required, such as in operating sliding dies, jigs and fixtures, and is adaptable to most straight line push-pull power requirements. Schrader Leg Mounted Cylinders may be obtained with or without cushion. Cushioned cylinders will stand up under any pounding which may be caused by high piston speed and high inertia loads. The cushion action takes place approximately one inch from the end of the stroke. Cushioned cylinders shown on this page have an adjustable cushion at each end of the stroke.



PARTS EASILY REPLACED SEE PAGE 78

CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

WITHOUT CUSHION

Schrader Number	A	B	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	T	U	Clevis
3391	1	4 3/16	2 3/8	1 7/8	1 5/16	9/32	1	11/16	3/8-24 NF-2	3/8	2, 1/4	1/8 N.P.T.	1 1/2	3 1/8	3/8	2 1/2	1 7/32	1/2	3276
3371	1 1/2	4 7/8	3 3/16	2 3/8	1 1/2	11/32	1 11/32	15/16	1/2-20 NF-2	1/2	2, 5/16	1/4 N.P.T.	2 1/16	3 13/16	5/16	3 1/16	1 3/4	1/4	3030-3277
3392	2	6 1/4	3 1/8	2 9/16	1 7/8	13/32	1 15/32	1 3/16	5/8-18 NF-2	5/8	4, 5/16	3/8 N.P.T.	2 7/16	4 15/16	7/16	4 3/16	1 27/32	9/16	3031-3278
3372	2 1/4	6 1/4	4 1/16	2 13/16	2 1/8	13/32	1 15/32	1 3/16	5/8-18 NF-2	5/8	2, 5/16	3/8 N.P.T.	2 7/16	4 15/16	7/16	4 3/16	2 1/4	9/16	3031-3278
3393	3	8 1/2	4 7/16	3 5/8	2 11/16	17/32	2 5/16	1 3/4	1-8 NC-2	1	4, 3/8	3/8 N.P.T.	2 3/4	5 3/4	9/16	4 3/4	2 5/8	9/16	398
3373	3 1/2	8 3/4	4 15/16	4 3/16	3	17/32	2 5/16	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	3	6 19/32	9/16	5 15/32	2 13/16	5/8	398
3374	4	8 3/4	5 1/2	4 15/16	3 3/4	17/32	2 5/16	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	3	6 19/32	9/16	5 15/32	3	5/8	398
3376	6	8 1/4	8 7/16	7 3/16	4 15/16	19/32	2 7/16	2	1-8 NC-2	1 1/4	6, 7/16	1/2 N.P.T.	3 3/16	6 9/16	11/16	5 1/16	4 3/8	3/4	398
3378	8	12 7/32	9 3/4	9 11/16	8	25/32	4	3 1/2	1 3/4-5 NC-2	2	8, 1/2	3/4 N.P.T.	3 7/8	8	3/4	6 3/8	4 7/8	3/4	None

CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

WITH ADJUSTABLE CUSHION

Schrader Number	A	B	C	D	E	F	G	H	J	K	L	M	N	Q	R	S	T	U	Clevis
3381	1 1/2	6 15/16	3 3/16	2 3/8	1 1/2	11/32	1 5/16	15/16	1/2-20 NF-2	1/2	2, 5/16	1/4 N.P.T.	3 3/16	3 13/16	5/16	3 1/16	1 3/4	—	3030-3277
3362	2	8 5/16	3 1/8	2 9/16	1 7/8	13/32	1 1/2	1 3/16	5/8-18 NF-2	5/8	4, 5/16	3/8 N.P.T.	3 13/16	6 11/16	7/16	5 15/16	1 27/32	1/8	3031-3278
3382	2 1/4	8 5/16	4 1/16	2 13/16	2 1/8	13/32	1 1/2	1 3/16	5/8-18 NF-2	5/8	2, 5/16	3/8 N.P.T.	3 13/16	4 15/16	7/16	4 3/16	2 1/4	—	3031-3278
3363	3	10 3/4	4 7/16	3 5/8	2 11/16	17/32	2 1/2	1 3/4	1-8 NC-2	1	4, 3/8	3/8 N.P.T.	4 1/8	7 5/8	9/16	6 5/8	2 5/8	—	398
3383	3 1/2	11	4 15/16	4 3/16	3	17/32	2 1/4	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	4 3/8	8 1/8	9/16	7	2 13/16	—	398
3384	4	11	5 1/2	4 15/16	3 3/4	17/32	2 1/4	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	4 3/8	8 1/8	9/16	7	3	—	398
3386	6	10 3/16	8 7/16	7 3/16	4 15/16	19/32	2 3/8	2	1-8 NC-2	1 1/4	6, 7/16	1/2 N.P.T.	3 15/16	6 5/8	11/16	5 1/8	4 3/8	—	398
3388	8	15 1/4	9 3/4	9 11/16	8	25/32	4	3 1/2	1 3/4-5 NC-2	2	8, 1/2	3/4 N.P.T.	5 1/8	8	3/4	6 3/8	4 7/8	—	None

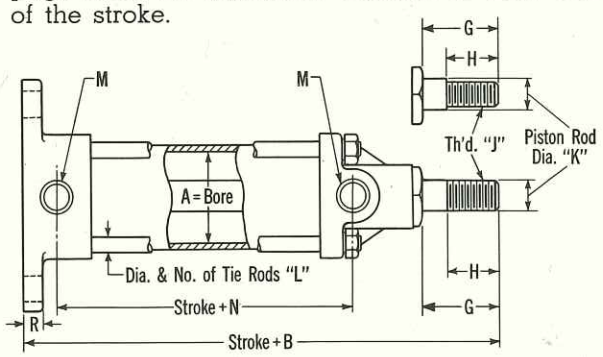
When ordering specify Schrader number shown in charts above and stroke desired to the nearest inch.

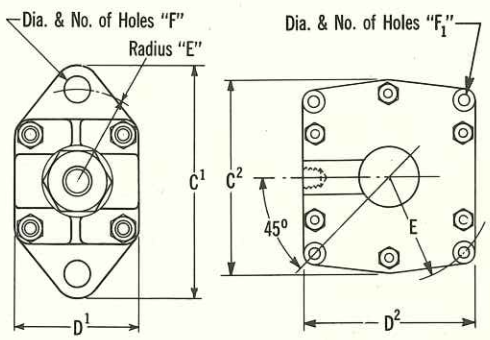
Schrader
REG. U.S. PAT. OFF.

Double Acting Cylinders—Base Mounted

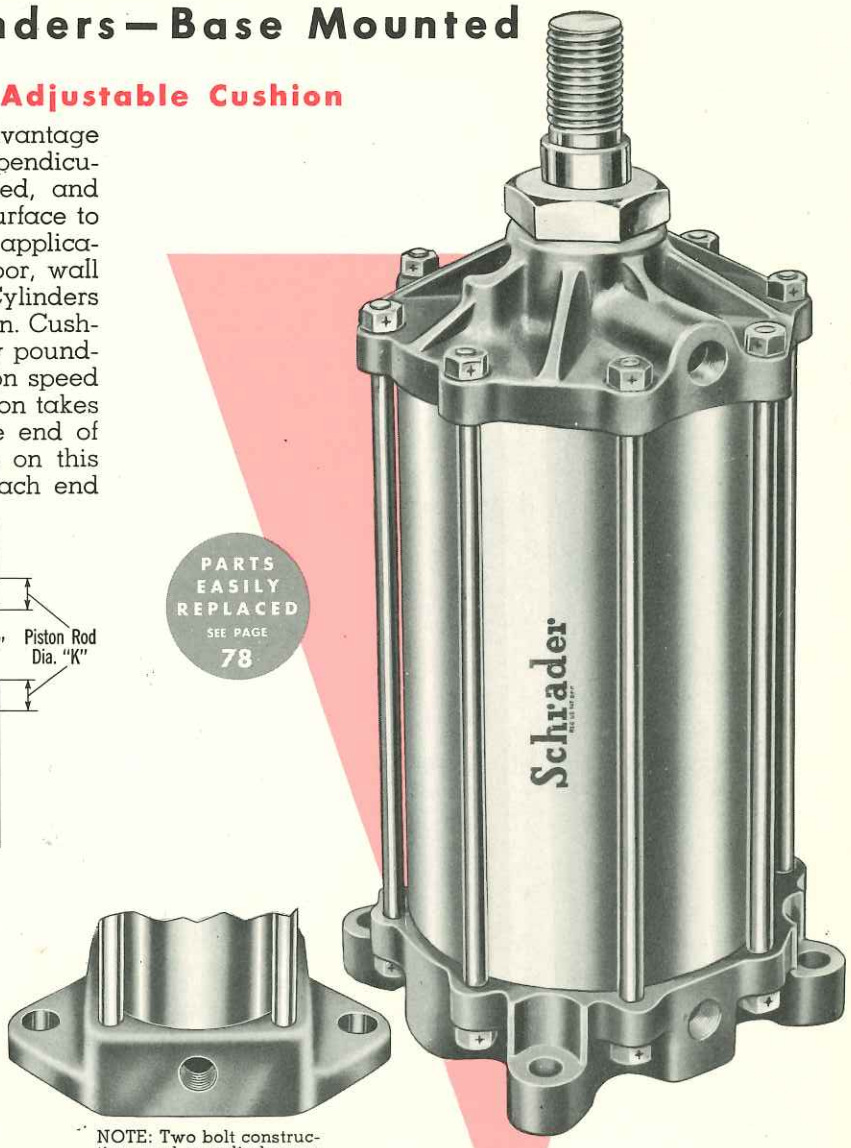
With or Without Adjustable Cushion

These cylinders are of particular advantage where a push and pull power stroke perpendicular to the mounting surface is required, and where any alteration of the mounting surface to suit the cylinder is undesirable. Typical applications call for bolting the cylinders to floor, wall or ceiling. Schrader Base Mounted Cylinders may be obtained with or without cushion. Cushioned cylinders will stand up under any pounding which may be caused by high piston speed and high inertia loads. The cushion action takes place approximately one inch from the end of the stroke. Cushioned cylinders shown on this page have an adjustable cushion at each end of the stroke.





PARTS EASILY REPLACED SEE PAGE 78



NOTE: Two bolt construction used on cylinders up to 4" dia. bore.

CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

WITHOUT CUSHION

Schrader Number	A	B	C¹	C²	D¹	D²	E	F	F¹	G	H	J	K	L	M	N	R	Clevis
3471	1	4 5/16	2 11/16	—	1 5/8	—	1 3/32	2, 3/32	—	1	11/16	3/8-24 NF-2	3/8	2, 1/4	1/8 N.P.T.	1 1/2	15/16	3276
3431	1 1/2	4 13/16	3 5/8	—	2 3/8	—	1 3/8	2, 13/32	—	1 3/8	15/16	1/2-20 NF-2	1/2	2, 5/16	1/4 N.P.T.	2 1/16	3/8	3030-3277
3472	2	6 1/4	4 3/4	—	2 9/16	—	1 7/8	2, 17/32	—	1 7/16	1 3/16	5/8-18 NF-2	5/8	4, 5/16	3/8 N.P.T.	2 7/16	7/16	3031-3278
3432	2 1/4	6 3/16	4 7/8	—	2 13/16	—	1 15/16	2, 17/32	—	1 7/16	1 3/16	5/8-18 NF-2	5/8	2, 5/16	3/8 N.P.T.	2 7/16	7/16	3031-3278
3473	3	8 5/16	6 3/8	—	3 5/8	—	2 5/8	2, 21/32	—	2 3/16	1 3/4	1-8 NC-2	1	4, 3/8	3/8 N.P.T.	2 3/4	9/16	398
3433	3 1/2	8 5/8	6 7/8	—	4 3/16	—	2 7/8	2, 21/32	—	2 3/16	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	3 1/16	9/16	398
3434	4	8 5/8	7 5/8	—	4 15/16	—	3 1/4	2, 21/32	—	2 1/4	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	3 1/16	9/16	398
3436	6	8 5/16	—	8 1/8	—	7 5/16	4 3/8	—	4 17/32	2 7/16	2	1-8 NC-2	1 1/4	6, 7/16	1/2 N.P.T.	3 1/4	1 3/8	398
3438	8	12 1/2	—	9 11/16	—	9 11/16	5 1/4	—	4 25/32	4	3 1/2	1 3/4-5 NC-2	2	8, 1/2	3/4 N.P.T.	3 7/8	1 13/16	None

WITH ADJUSTABLE CUSHION

Schrader Number	A	B	C¹	C²	D¹	D²	E	F	F₁	G	H	J	K	L	M	N	R	Clevis
3421	1 1/2	7 3/8	3 5/8	—	2 3/8	—	1 3/8	2, 13/32	—	1 1/4	15/16	1/2-20 NF-2	1/2	2, 5/16	1/4 N.P.T.	3 3/16	3/8	3030-3277
3442	2	8 3/8	4 3/4	—	2 9/16	—	1 7/8	2, 17/32	—	1 1/2	1 3/16	5/8-18 NF-2	5/8	4, 5/16	3/8 N.P.T.	3 1/8	7/16	3031-3278
3422	2 1/4	8 3/8	4 7/8	—	2 13/16	—	1 15/16	2, 17/32	—	1 1/2	1 3/16	5/8-18 NF-2	5/8	2 5/16	3/8 N.P.T.	3 1/8	7/16	3031-3278
3443	3	11 9/16	6 3/8	—	3 5/8	—	2 5/8	2, 21/32	—	2 1/2	1 3/4	1-8 NC-2	1	4, 3/8	3/8 N.P.T.	4 1/8	9/16	398
3423	3 1/2	11 13/16	6 7/8	—	4 3/16	—	2 7/8	2, 21/32	—	2 1/4	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	4 3/8	9/16	398
3424	4	11 13/16	7 5/8	—	4 15/16	—	3 1/4	2, 21/32	—	2 1/4	1 3/4	1-8 NC-2	1	4, 3/8	1/2 N.P.T.	4 3/8	9/16	398
3426	6	10 1/4	—	8 1/8	—	7 3/16	4 3/8	—	4, 17/32	2 3/8	2	1-8 NC-2	1 1/4	6, 7/16	1/2 N.P.T.	3 15/16	2	398
3428	8	15 3/8	—	9 11/16	—	9 11/16	5 1/4	—	4, 25/32	4	3 1/2	1 3/4-5 NC-2	2	8, 1/2	3/4 N.P.T.	5 1/8	1 13/16	None

When ordering specify Schrader number shown in charts above and stroke desired to the nearest inch.

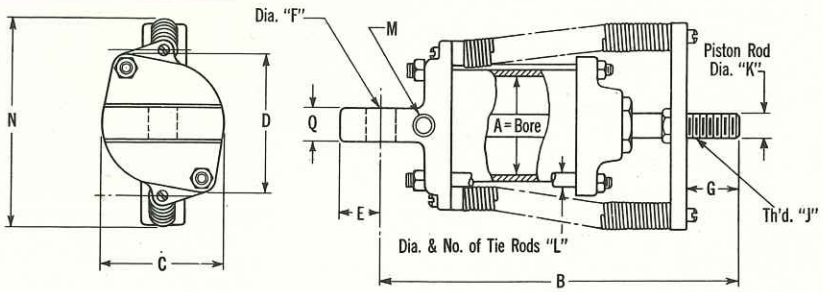
PARTS EASILY REPLACED SEE PAGE 78

Single Acting Cylinders

Bolt Mounted Push Type

These Cylinders have spring return up to and including 10 inch stroke. The springs are mounted externally between yoke and bottom plate, and provide sufficient force to quickly return the cylinder regardless of mounting position. This type of cylinder will give you real air power compactness in any job requiring a push power stroke.

Clevis connections and mounting brackets designed for proper installation of these bolt mounted cylinders are shown on page 59. Three-way operating valves can be selected from those shown in valve section.



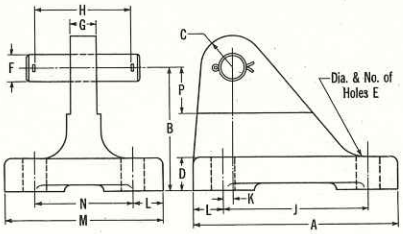
CYLINDERS SHOWN WITH PISTON RODS FULLY RETRACTED. Dimensions shown in inches.

Schrader Number	A	B†	C	D	E	F	G	J	K	L	M	N	Q	Mounting Bracket	Clevis
3247	1½	See	2 1/16	2 7/16	5/8	17/32	3	½-20 NF-2	½	2, ¼	¼ N.P.T.	3 9/16	¾	3033	3030–3277
3138	2¼	Chart	2 13/16	3 1/16	29/32	41/64	3	5/8-18 NF-2	5/8	2, 5/16	¼ N.P.T.	4 11/16	¾	2698	3031–3278
3249	3½	Below	4 5/8	5 13/16	15/16	49/64	2½	¾-16 NF-2	¾	3, ⅜	½ N.P.T.	5 13/16	1 3/16	1494	395

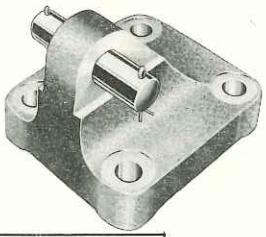
ALL CYLINDERS SUPPLIED WITH SPRING RETURN TO 10" STROKE.

Schrader Number	Bore	Dim. B	STROKE IN INCHES									
			1	2	3	4	5	6	7	8	9	10
3247	1½	B†	9	10	11	12	13	15	16	17	18	19
3138	2¼	B†	9 5/16	10 5/16	11 5/16	12 5/16	13 5/16	14 5/16	16 5/16	17 5/16	18 5/16	19 5/16
3249	3½	B†	9½	10½	11½	12½	13½	15½	16½	17½	18½	19½

When ordering specify Schrader number shown in chart above and stroke desired to the nearest inch.

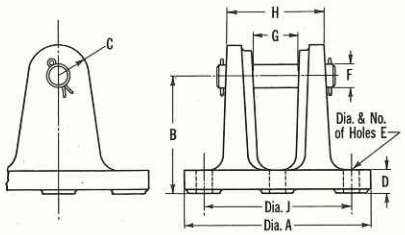


Cylinder Base Brackets

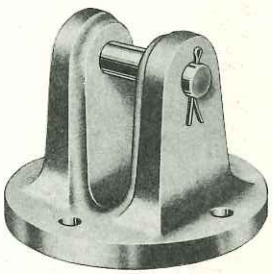


These sturdy brackets are designed for Bolt Mounted Cylinders shown on pages 52, 53, 54. They permit a 90 degree cylinder swing from perpendicular in one direction, 45 degree in the other direction.

Schrader Number	DIMENSIONS (Inches)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	P
3117	3 13/16	2 5/16	19/32	5/8	4, 29/64	1/2	1/2	1 1/4	2 11/16	3/16	9/16	3	1 7/8	7/8
3118	6	3 3/8	3/4	1 1/8	4, 17/32	11/16	5/8	2 3/32	4 5/8	1/4	11/16	4 3/8	3	1
3166	6 9/16	4	1 1/16	1 3/8	4, 25/32	1	1 1/4	3 5/16	4 13/16	7/16	7/8	5 3/4	4	1 1/2
3168	9 15/16	5 1/4	1 1/8	1 5/8	4, 29/32	1 1/8	1 1/2	4 5/16	7 11/16	5/16	1 1/8	6 3/4	4 1/2	1 11/16



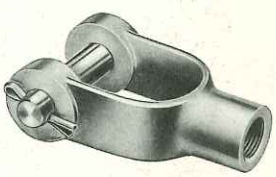
Schrader Bolt Mounted Cylinders shown on page 58 can be mounted quickly with these Schrader Mounting Brackets. Bolted to flat surfaces they allow a cylinder to swing at angles ranging from perpendicular to 90 degrees on either side.

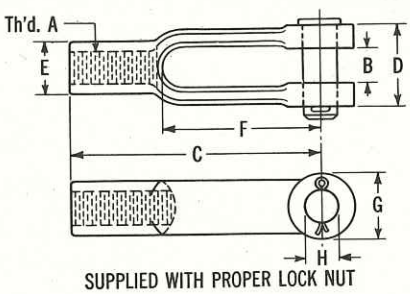


Schrader Number	DIMENSIONS (Inches)								
	A	B	C	D	E	F	G	H	J
3033	4 1/2	2 5/8	1/2	1/2	4, 11/32	1/2	7/8	2 1/4	3 1/2
2698	5	2 7/8	5/8	11/16	4, 13/32	5/8	7/8	2 3/4	4
1494	6	3 3/4	1	3/4	4, 17/32	3/4	1 3/8	3 1/8	4 3/4

Adjustable Clevises

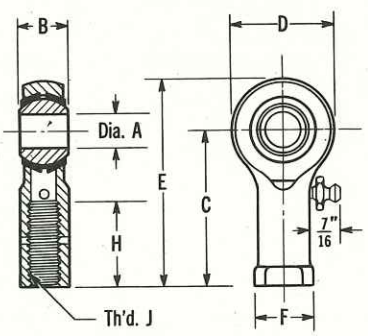
These adjustable, forged steel rod ends provide dependable connections between cylinders and cylinder operated linkages or other members.



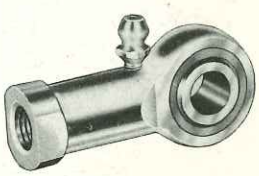


SUPPLIED WITH PROPER LOCK NUT

Schrader Number	Thread A	DIMENSIONS (Inches)						
		B	C	D	E	F	G	H
3276	3/8"-24 NF-2	1/2	2 1/2	1	3/4	1 5/8	13/16	3/8
3277	1/2"-20 NF-2	9/16	3	1 1/8	13/16	1 7/8	15/16	1/2
3030	1/2"-20 NF-2	1 5/32	3	1 29/32	15/16	1 7/8	1 1/8	1/2
3278	5/8"-18 NF-2	11/16	4 15/16	1 3/8	1 1/16	3 11/16	1 5/16	5/8
3031	5/8"-18 NF-2	1 5/32	3	1 29/32	15/16	1 7/8	1 1/8	1/2
395	3/4"-16 NF-2	5/8	2 5/8	1 1/2	1 1/2	1	1 1/2	3/4
398	1"- 8 NC-2	5/8	2 5/8	1 1/2	1 1/2	1	1 1/2	3/4

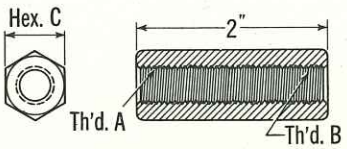


Spherical Bearing Rod Ends



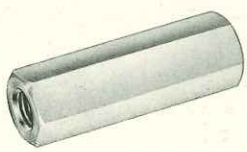
Spherical bearing rod ends are available for use in certain cases where a standard clevis cannot be used to best advantage.

Schrader Number	DIMENSIONS (Inches)								Thread J
	A	B	C	D	E	F	G	H	
3201	3/8	1/2	1 5/8	1	2 1/8	11/32	15/32	15/16	3/8"-24 NF-2
3202	1/2	5/8	2 1/8	1 5/16	2 25/32	7/8	19/32	1 3/16	1/2"-20 NF-2



Piston Rod Unions

These unions will simplify adding an extra length of rod to the piston rod where you find that the standard length supplied is too short for your installation.

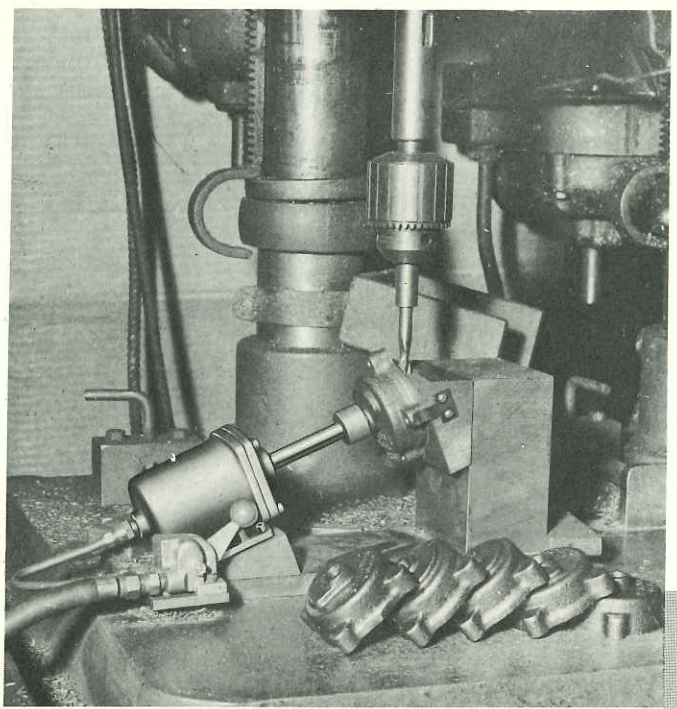


Schrader Number	Th'd. A	Th'd. B	C
1369-2	3/8"-16NC-2	3/8"-16NC-2	5/8"
3147	1/2"-20NF-2	1/2"-20NF-2	3/4"
3318	3/8"-24NF-2	1/2"-20NF-2	3/4"

POWER-PACKED *Clamping Cylinders*

FEATURES

- ***Maximum power in minimum space***
- ***Greatest versatility of uses***
- ***Ruggedness — heaviest cast-brass***
- ***Self-sealing U-Cup design***



Schrader presents a new line of push type, spring return air cylinders designed specifically for use in production devices where cost, size, weight and complexity must be kept at the minimum. All twelve models in this line of cylinders are compact relative to their rugged strength, power and stroke, and they are neatly designed with the return spring and other working parts enclosed in a sturdy, streamlined body. In jigs, fixtures and other work holding applications, the Schrader Cylinder will relieve the operator of the tiring muscular work of setting a mechanical clamp and will reduce the time required for clamping work. In addition, a Cylinder will eliminate work rejection due to inconsistent holding forces and will simplify any work holding mechanism.

FORCES DELIVERED BY THESE LITTLE CYLINDERS

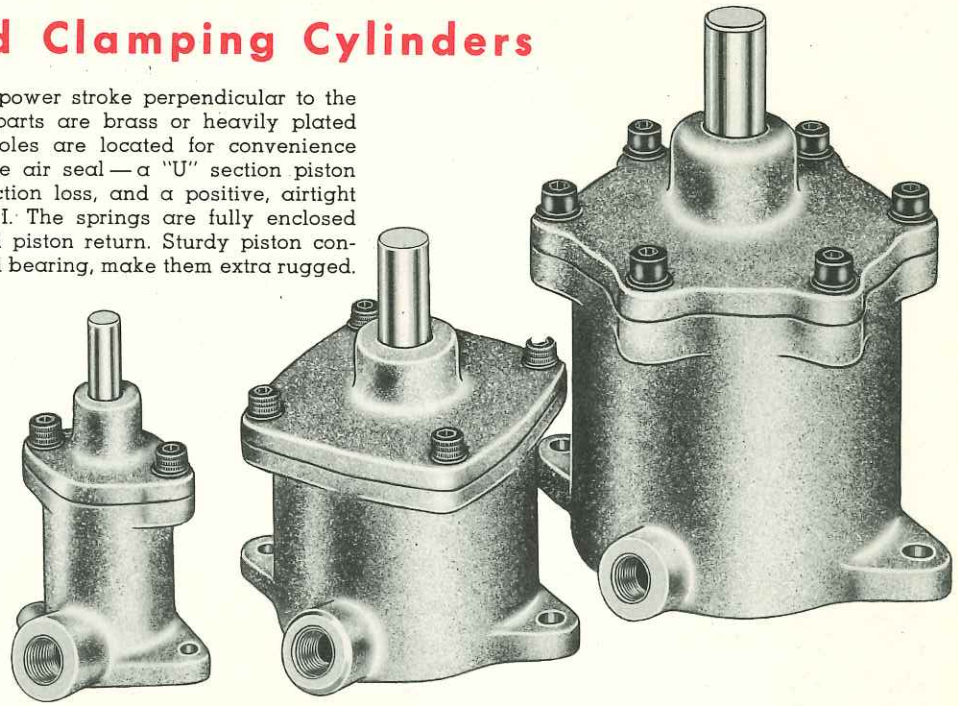
Cylinder Bore Dia.	Air Line Pressure in P.S.I. (Gauge)									Work Area Sq. In.
	40	50	60	70	80	90	100	110	120	
1″	26	34	41	47	56	64	73	81	88	0.785
2¼″	134	170	211	250	288	328	369	411	454	3.976
3″	237	304	374	446	514	585	656	731	807	7.068

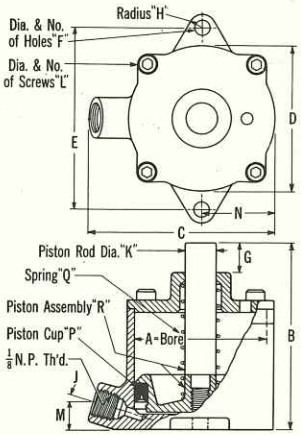
TYPICAL TIME-SAVING USES

- **Clamping**
- **Positioning**
- **Transferring**
- **Marking**
- **Striking**
- **Forming**
- **Many Other Uses**

Base Mounted Clamping Cylinders

These Cylinders deliver a push power stroke perpendicular to the mounting surface. All metallic parts are brass or heavily plated for rust prevention. Mounting holes are located for convenience in installation. There is only one air seal — a "U" section piston cup which assures minimum friction loss, and a positive, airtight seal at all pressures to 150 P.S.I. The springs are fully enclosed and are strong enough for rapid piston return. Sturdy piston construction, generous piston and rod bearing, make them extra rugged.

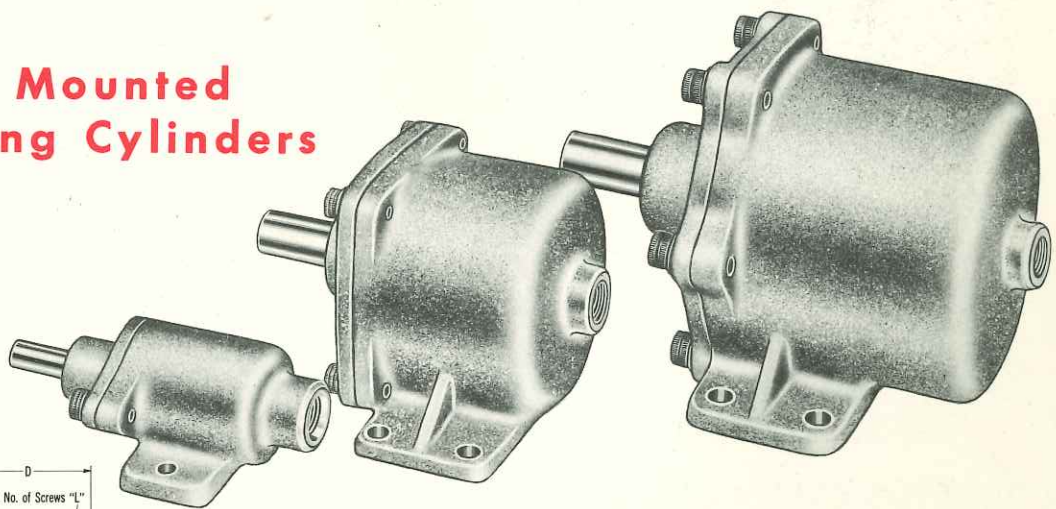


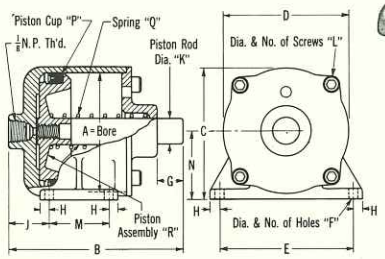


Schrader Number	Dimensions (Inches)														Replacement Parts		
	Stroke	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
3451A	1	1	3 9/32	1 13/16	1 3/16	1 5/8	2, 13/64	3/4	3/16	17°	5/16	2, #10-32 NF-2	9/16	19/32	3451–3	3451–6	3451A–198
3451B	2	1	4 9/32	1 13/16	1 3/16	1 5/8	2, 13/64	3/4	3/16	17°	5/16	2, #10-32 NF-2	9/16	19/32	3451–3	3451–6	3451B–198
3452A	1	2¼	3 23/32	3 1/8	2½	3 1/16	2, 17/64	1	¼	17°	½	4, #10-32 NF-2	9/16	1 ¼	3452–3	3452–7	3452A–198
3452B	2	2¼	4 23/32	3 1/8	2½	3 1/16	2, 17/64	1	¼	17°	½	4, #10-32 NF-2	9/16	1 ¼	3452–3	3452–7	3452B–198
3453A	1	3	4 9/32	4 ¼	3¼	4	2, 21/64	1 3/32	5/16	17°	5/8	6, ¼"-28 NF-2	9/16	2	3453–3	3453–6	3453A–198
3453B	2	3	5 9/32	4 ¼	3¼	4	2, 21/64	1 3/32	5/16	17°	5/8	6, ¼"-28 NF-2	9/16	2	3453–3	3453–6	3453B–198

Leg Mounted Clamping Cylinders

These Cylinders require only a three-way valve to operate them. You have a wide selection to choose from.





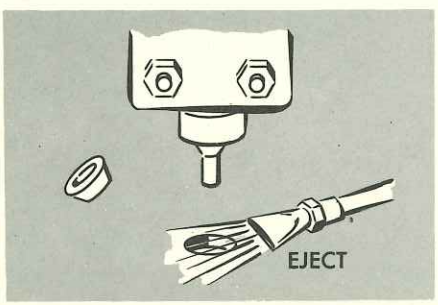
Leg Mounted Cylinders deliver a smooth, rapid action, push power stroke parallel to the mounting surface. The location of the threaded air port is on the same center as the piston rod. This extra feature makes it particularly adaptable for use on rotating fixtures when a rotating pressure joint (page 47) is mounted on the air port. You have your choice of one inch or two inch stroke in all bore sizes and mounting types.

Schrader Number	Dimensions (Inches)														Replacement Parts		
	Stroke	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
3351A	1	1	3 19/32	1 7/32	1 3/16	1 5/8	2, 13/64	25/32	½	1 5/16	5/16	2, #10-32 NF-2	—	5/8	3451–3	3451–6	3451A–198
3351B	2	1	4 19/32	1 7/32	1 3/16	1 5/8	2, 13/64	25/32	½	2 5/16	5/16	2, #10-32 NF-2	—	5/8	3451–3	3451–6	3451B–198
3351C	3	1	6 3/16	1¼	1¼	1 5/8	2, 13/64	23/32	3/16	3 5/16	5/16	2, #10-32 NF-2	—	5/8	3451–3	3351C–4	3351C–198
3352A	1	2¼	4 1/32	2 9/16	2½	3 1/16	4, 17/64	1	7/32	¾	½	4, #10-32 NF-2	1 1/16	1 5/16	3452–3	3452–7	3452A–198
3352B	2	2¼	5 1/32	2 9/16	2½	3 1/16	4, 17/64	1	7/32	1¾	½	4, #10-32 NF-2	1 1/16	1 5/16	3452–3	3452–7	3452B–198
3353A	1	3	4 21/32	3½	3¼	3⅜	4, 21/64	1 3/32	5/16	⅞	5/8	6, ¼"-28 NF-2	1⅛	1¾	3453–3	3453–6	3453A–198
3353B	2	3	5 21/32	3½	3¼	3⅜	4, 21/64	1 3/32	5/16	1⅛	5/8	6, ¼"-28 NF-2	1⅛	1¾	3453–3	3453–6	3453B–198

Complete
with Schrader Pack

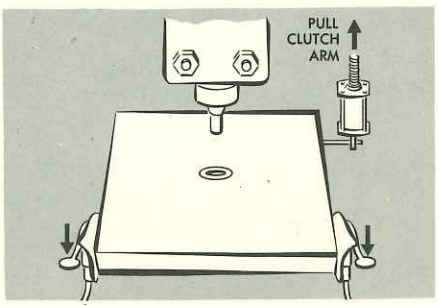
Schrader packaged control sets can help you bring your manufacturing operations up-to-date without the need for selecting and assembling component parts. Save time and money. Three standard sets are all ready to install, and they are adaptable for many operations. What's more, they're safer to operate and are designed to give you years of dependable performance.

Schrader packaged control sets give you automatic, hands-off control over manufacturing operations. Here are some examples of what packaged air power can do for you.



1. EJECT WITH AIR

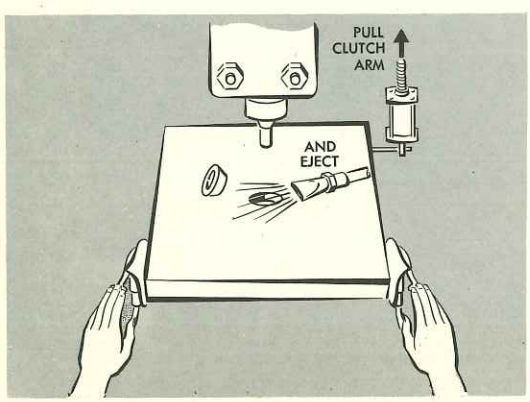
If you're removing parts or scraps from a die by hand or a manual air blast—you're wasting time and money. Schrader has a packaged set which can handle this type of operation—automatically. Suit yourself—select a standard set, with or without a timed-delay air blast.



2. OPERATE WITH AIR

Tripping a press clutch by hopping all day on one foot to trip a mechanical or foot pedal? Operating a shear with your weight on mechanical foot lever? Get in step with the times and install one of Schrader's packaged 2-hand press controls or foot-operated controls. Two-hand control sets are an excellent safeguard against carelessness. Light tip-toe action is all that's required to harness the air power when a movable Schrader foot valve is put in the line to operate the machine. Both standard sets relieve the operator of fatigue.

HERE'S HOW EASY IT IS...



3. COMPLETE AIR CONTROL

Get the most from your investment dollar by combining both of the standard Schrader packaged sets, ejection and machine control. Here, for example, air power works for you from the beginning to the end of the operation. Press controls —hand or foot-operated—are combined with a standard air ejection set.

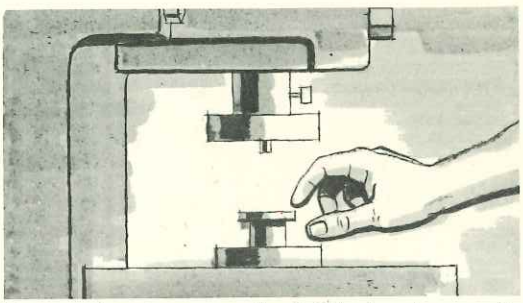
Control

aged Control Sets

How do you perform these operations

like this . . . or . . . like this?

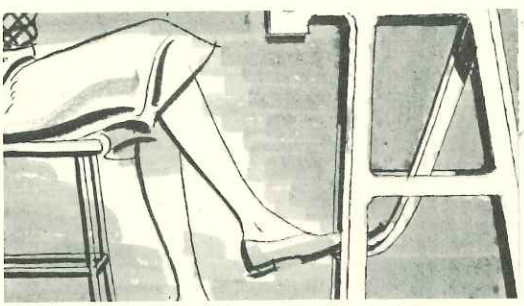
1



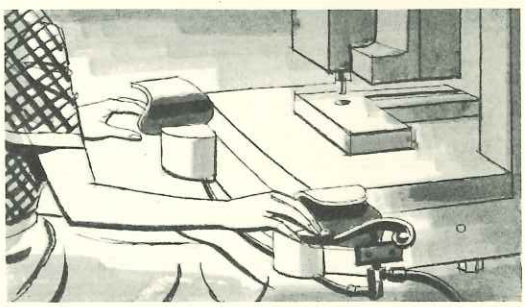
Operator has to remove the finished part manually —this takes time and operator's energy. It costs money.

Operator performs his job quickly. A timed air blast removes the part—he's no longer tired—production increases after Schrader air ejection set is installed.

2

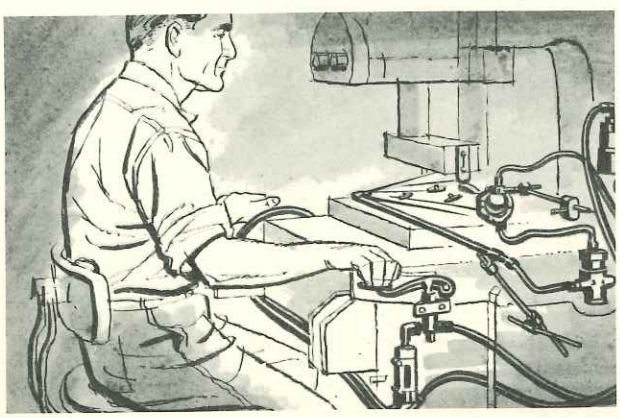


Operator stamps on mechanical pedal all day. Hands could be in the danger zone when foot trips clutch.



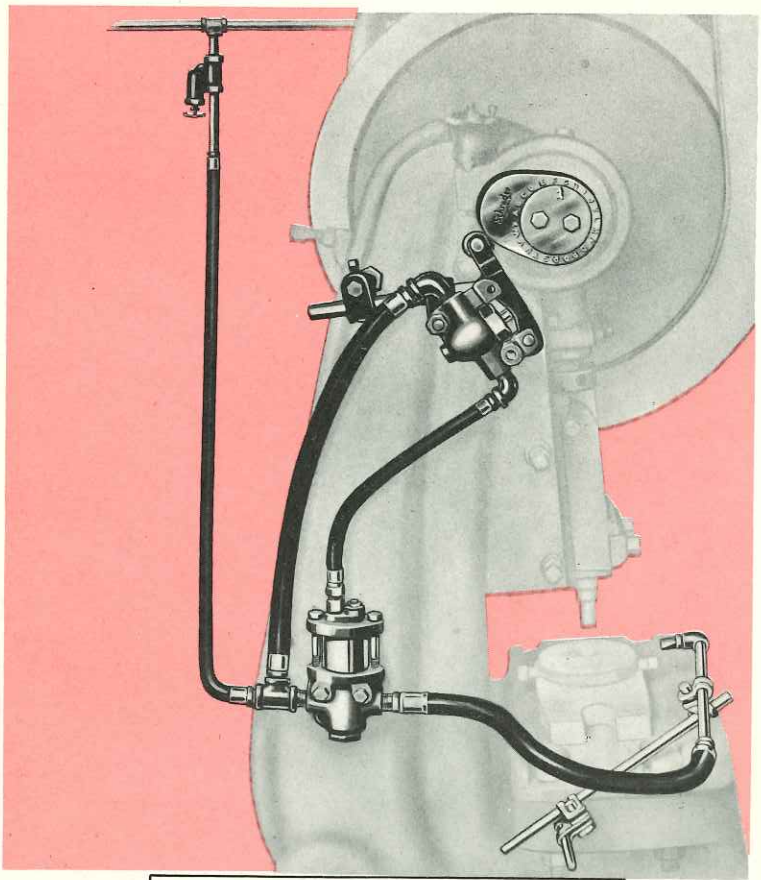
Press will not operate unless **both** hands operate Schrader press controls. Operator sits down. Result:—safe work makes for operator's peace of mind.

3



Outmoded equipment and outmoded handling resulted in costly manufacturing operation. With equipment brought up to date, operator performs faster and doesn't worry about accidents. Schrader packaged control sets, combined to perform this operation . . . did the trick.

CHOOSE FROM THESE EASILY INSTALLED UNITS



No. 3208W Air Ejection Set Consists of

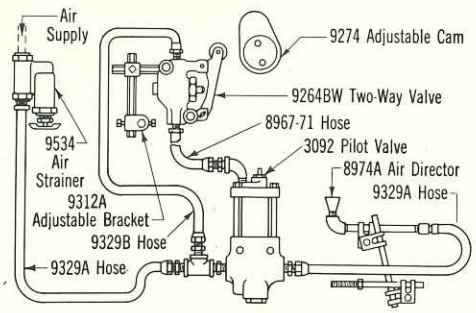
Quantity	Schrader Number	Description
1	3092	Pilot Valve
1	9264BW	Two-Way Valve
1	9274	Adjustable Cam
1	9312A	Adjustable Bracket
1	8974A	Air Director
1	9534	Air Strainer
4		Lengths of Fitted Hose Necessary Adapters

Cam-Operated Ejection Set— with Pilot Valve

For Timed Air Blasts

● Modernize your power presses ● Eliminate costly manual unloading ● Increase power press output ● Provide Safer Press Operation ● Reduce Operator Fatigue ● Avoid Wasteful "Continuous Blast" Air Ejection.

You will realize significant savings in operating costs when you install the Schrader No. 3208W Air Ejection Set on each of your power presses. This set is designed for cam operation off the press crankshaft, and offers the advantages of a **timed** air blast that can be adjusted to **start** the blast at any point in the press cycle, and can be adjusted to **continue** the blast for a fraction of a second, or longer, as desired. The start of the air blast is determined by the setting of the adjustable cam, and the duration of the air blast is determined by the screw driver setting of a bleeder screw on the pilot valve. If the work requires it, the air blast can be timed to continue after press motion ceases. This set is packaged as a unit, complete with an adjustable bracket for easy valve positioning and an adjustable air director for focusing the air blast on the proper point of application.



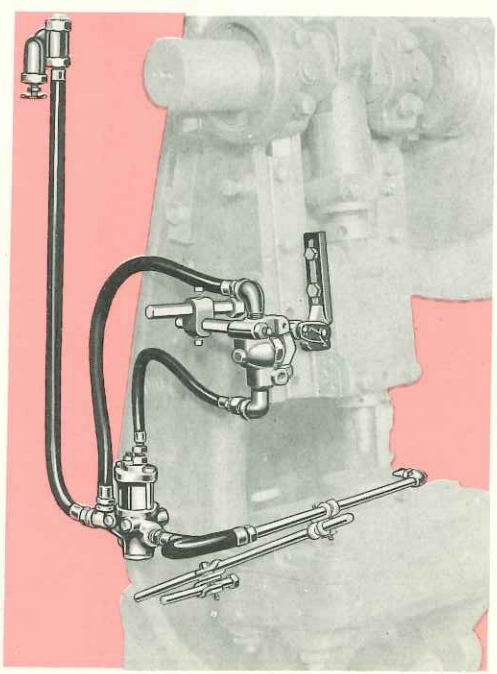
Ram-Operated Ejection Set —with Pilot Valve

For Timed Air Blasts

You get the same efficient performance and economical timed air blasts with this packaged set as with the Schrader No. 3208W Air Ejection Set. The only difference is that this set is operated by a roller tripper instead of a cam and is designed for installation on presses where the crankshaft cannot be used for mounting a cam. The roller tripper is designed for mounting on the ram of the press and can be adjusted to trip the operating valve at any point during the upstroke of the press. The air blast is automatically shut off at a pre-determined point, providing the desirable intermittent feature which cuts down costly, steady blasts. This set is supplied as a complete packaged unit, with an adjustable bracket for mounting the valve and an adjustable air director for focusing the blast on the work.

No. 3209W Air Ejection Set Consists of

Quantity	Schrader Number	Description
1	3092	Pilot Valve
1	9264W	Two-Way Valve
1	9265S	Roller Tripper
1	9343A	Adjustable Bracket
1	8974A	Air Director
1	9534	Air Strainer
4		Lengths of Fitted Hose Necessary Adapters



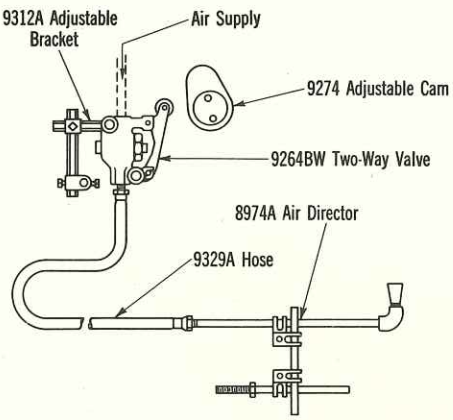
Schrader
REG. U.S. PAT. OFF.

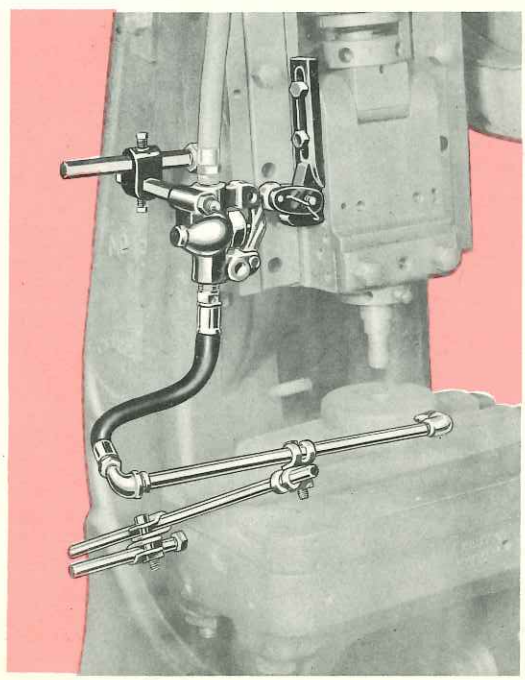
Cam-Operated Ejection set

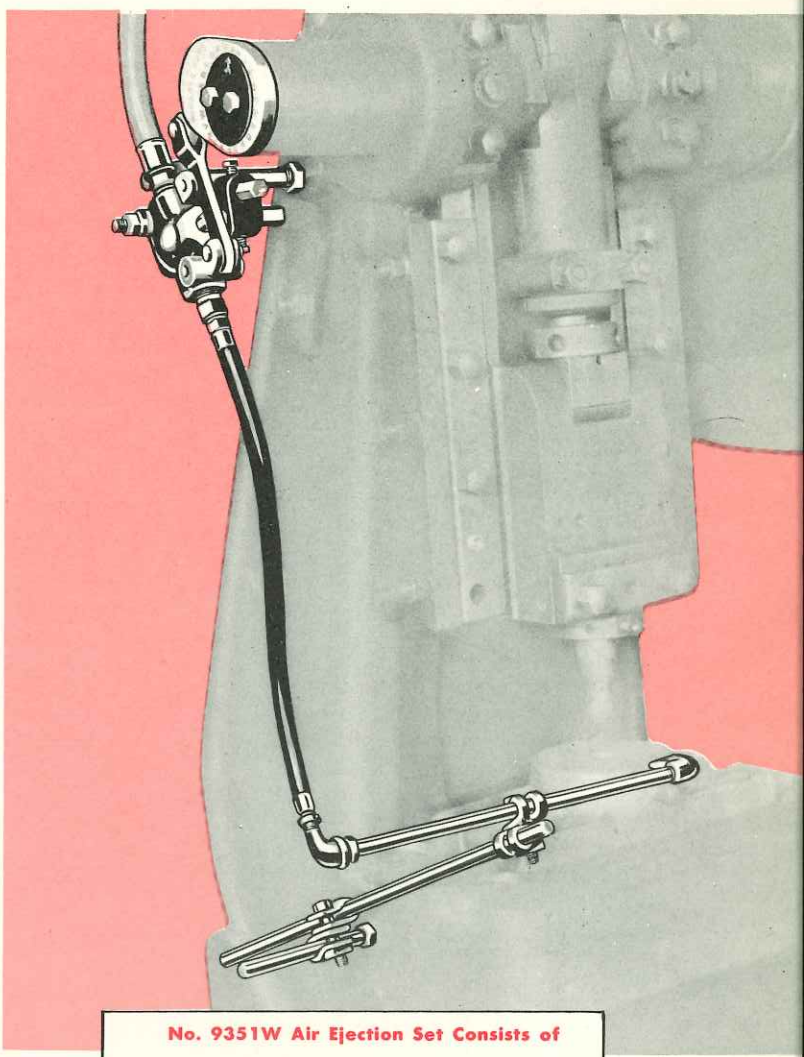
For Standard Operation

Modernize your power presses • Eliminate costly manual unloading • Increase power press output • Provide safer press operation • Reduce operator fatigue • Avoid wasteful "continuous blast" air ejection.

Where a short, sharp blast of air will fill your knockout requirements, the Schrader No. 9351W Air Ejection Set will prove to be a production building addition to your power presses. The air blast is controlled by a cam, working off the press crankshaft, which can be easily adjusted to deliver the blast at any time during the press cycle. This set is packaged, ready to install, with an adjustable mounting bracket for installing the valve and an adjustable air director for aiming the blast at the work to be ejected. Cams for providing air blasts of longer duration are available as shown on page 48.







No. 9351W Air Ejection Set Consists of

Quantity	Schrader Number	Description
1	9264BW	Two-Way Valve
1	9274	Adjustable Cam
1	9312A	Adjustable Bracket
1	8974A	Air Director
1		Length of Fitted Hose

Ram-Operated Ejection Set

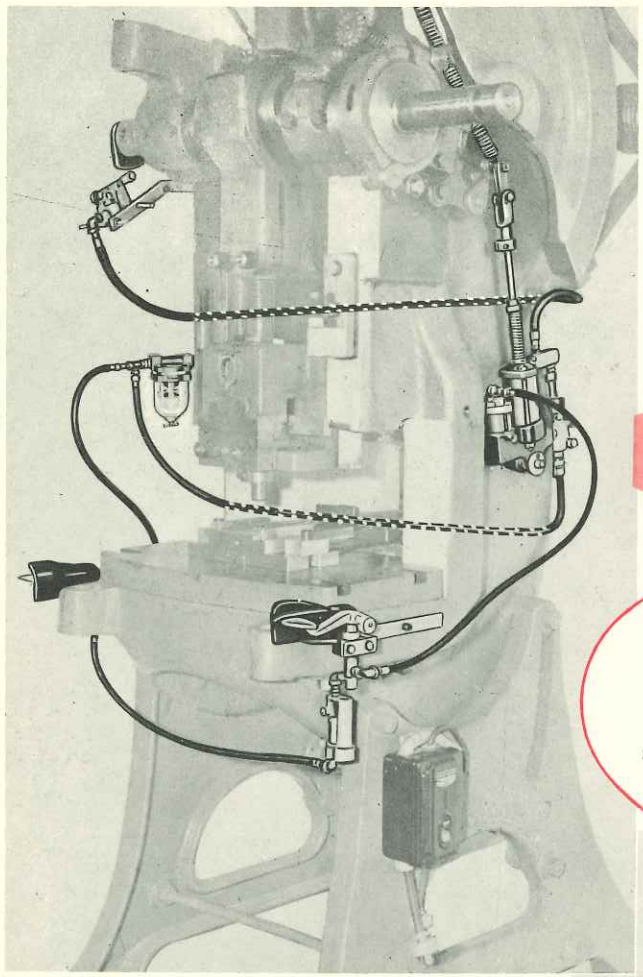
For Standard Operation

The Schrader No. 9355W Air Ejection Set has the same features as the 9351W Set except that it is actuated by a roller tripper instead of a cam. The air blast can be controlled to start at any time during the press cycle by properly positioning the roller tripper on the press ram. The set will operate efficiently on all ram strokes and is packaged ready to install with an adjustable bracket for easy valve mounting and an adjustable air director that will enable you to accurately "point" the air blast at the work.

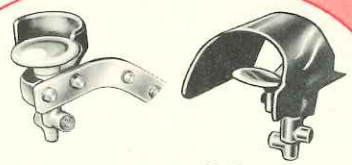
No. 9355W Air Ejection Set Consists of

Quantity	Schrader Number	Description
1	9264W	Two-Way Valve
1	9265S	Roller Tripper
1	9343A	Adjustable Bracket
1	8974A	Air Director
1		Length of Fitted Hose

These ready-made sets will fit most power presses without modification. Other combinations of fittings and hose lengths may be ordered from fittings shown on page 12 and hose shown on page 13.

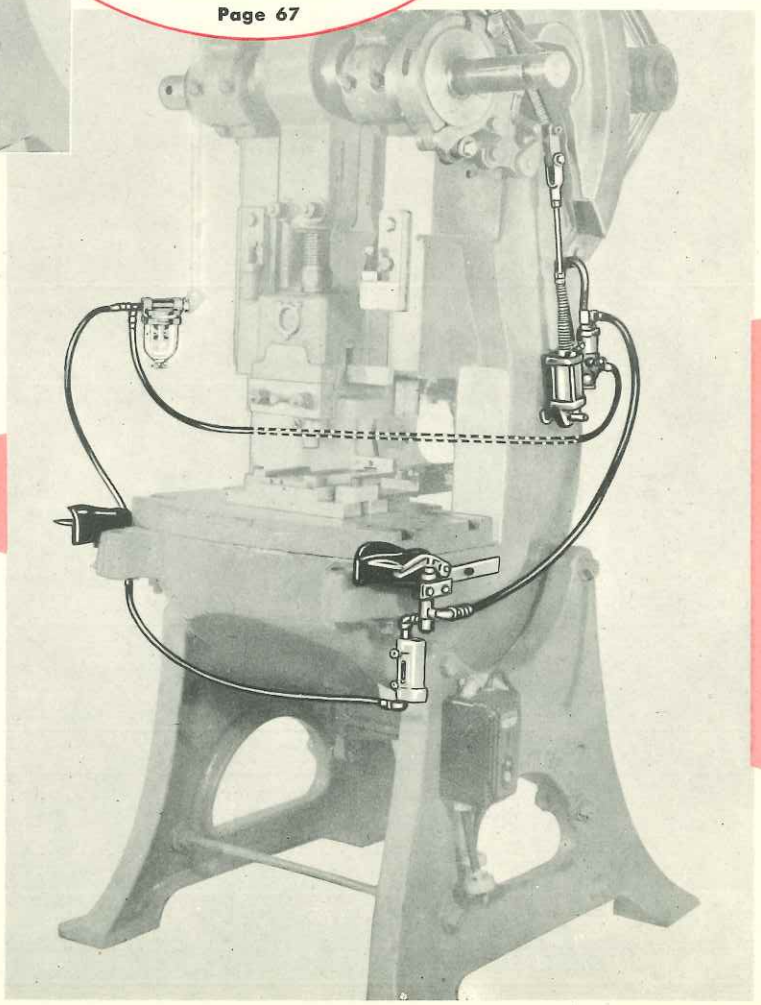


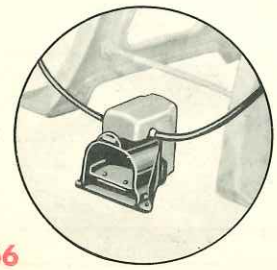
Hand-Operated Pneumatic Press Controls for Continuous Action Clutches



Sets with Button or Full Guard type valves available. Order by set numbers shown on Page 67

Hand-Operated Pneumatic Press Controls for Single Action Clutches





FOOT OPERATION
To convert these sets to foot operation, order a No. 9586W Valve (page 33) interchangeable for the hand control assembly by two simple connections.

Convert Machines with Continuous Clutch Action to Desirable Single Action

The Schrader No. 3295 type press control is especially designed to operate mechanical clutches and to provide increased power press production through safer and less fatiguing press operation. A special cutout valve (see page 46) in the line connecting the two operating valves makes it necessary that both hands be used simultaneously for each operation of the press, thereby keeping them away from the danger point at the time the ram comes down. If either valve is tied down, or otherwise held open continuously, in an attempt to make the control operable with one hand, the cutout valve shuts off the air supply and the press cannot be actuated. Operating valve levers are shielded by a sturdy guard to prevent accidental tripping, and are functionally designed for effortless "finger-tip" control, enabling the operator to synchronize press operation with press feeding.

These controls are packaged as complete units and vary only in length of cylinder stroke. Select from the chart below the Schrader number of the set that corresponds with the stroke of the clutch arm (allowing a plus tolerance). Mounting bolts, brackets and installation instructions are included with each set.

STANDARD PACKAGED SETS

Schrader Number	Cylinder stroke	Schrader Number	Cylinder stroke
3295A	½″	3295G	2″
3295B	¾″	3295H	2¼″
3295C	1″	3295J	2½″
3295D	1¼″	3295K	2¾″
3295E	1½″	3295L	3″
3295F	1¾″		

A No. 3295 Type Set Consists of:

Quantity	Schrader No.	Description
1	3334	Air Line Filter
2	9465-197	Three-Way Valves
1	3162-197	Bracket & Lever (L.H.)
1	3162-198	Bracket & Lever (R.H.)
1	3004	Cutout Valve
1	3295-188 (Type)	Cylinder & Exhaust Valve Assembly
3		Lengths of Fitted Hose

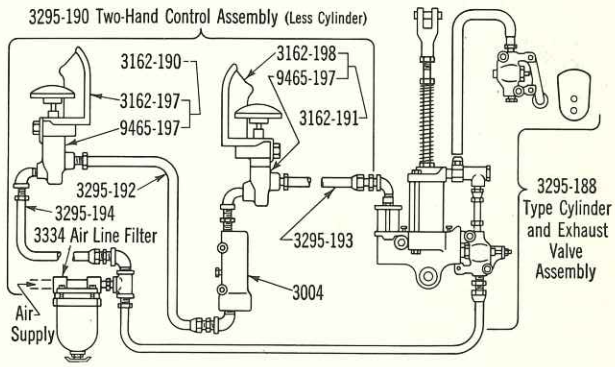
No. 3297 Set — Same as above but has Button type valves.

No. 3296 Set — Same as above but has Full Guard type valves.

Schrader Machine Controls should be operated at approximately 80 p.s.i. air line pressure. The use of an Air Line Pressure Regulator (see page 20) is recommended if your line pressure is higher. To assure best performance of your machine controls install a Schrader Air Line Lubricator.

LAYOUT FOR STANDARD MACHINE CONTROLS

The No. 3295 type press control is made up of standard Schrader parts, as shown in the schematic drawing below. These are shown in the proper sequence for power press installation and may be ordered for replacement by referring to the chart below.



Convert Machines with Single Action Clutches to Easy Finger-Tip Operation

The Schrader No. 3235 type press control has all the operating and safety advantages of the No. 3295 type, but is designed for power presses equipped with single action mechanical clutches. The operating valve levers provide the same effortless control that reduces operator fatigue to an absolute minimum and substantially increases power press production. A special cutout valve (see page 46) hooked up between the two operating valves makes two-hand actuation necessary for press operation, thereby keeping the operator's hands away from the ram during the down stroke. These controls are packaged as complete units and vary only in length of cylinder stroke. Select from the chart below the Schrader number of the set that corresponds with the stroke of the clutch arm (allowing a plus tolerance). Mounting bolts, brackets and installation instructions are included with each set.

STANDARD PACKAGED SETS

Schrader Number	Cylinder stroke	Schrader Number	Cylinder stroke
3235	¼″	3235F	1¾″
3235A	½″	3235G	2″
3235B	¾″	3235H	2¼″
3235C	1″	3235J	2½″
3235D	1¼″	3235K	2¾″
3235E	1½″	3235L	3″

A No. 3235 Type Set Consists of:

Quantity	Schrader Number	Description
1	3334	Air Line Filter
2	9465-197	Three-Way Valve
1	3162-197	Bracket & Lever (L.H.)
1	3162-198	Bracket & Lever (R.H.)
1	3004	Cutout Valve
1	3093	Pilot Valve
1	3278	Clevis
1	3132 (Type)	Cylinder
5		Lengths of Fitted Hose

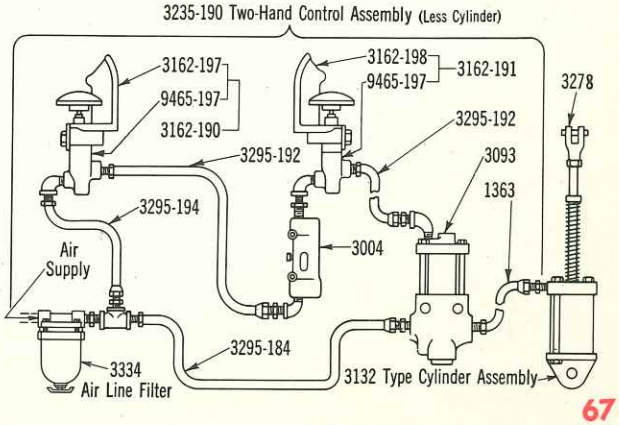
No. 3237 Set — Same as above but has Button type valves.

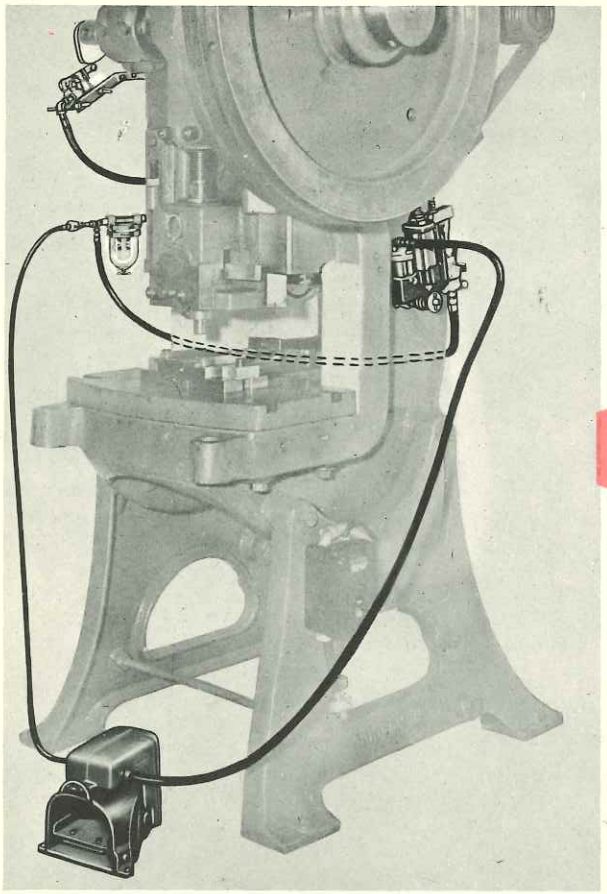
No. 3236 Set — Same as above but has Full Guard type valves.

Schrader Machine Controls should be operated at approximately 80 p.s.i. air line pressure. The use of an Air Line Pressure Regulator (see page 20) is recommended if your line pressure is higher. To assure best performance of your machine controls install a Schrader Air Line Lubricator.

LAYOUT FOR STANDARD MACHINE CONTROLS

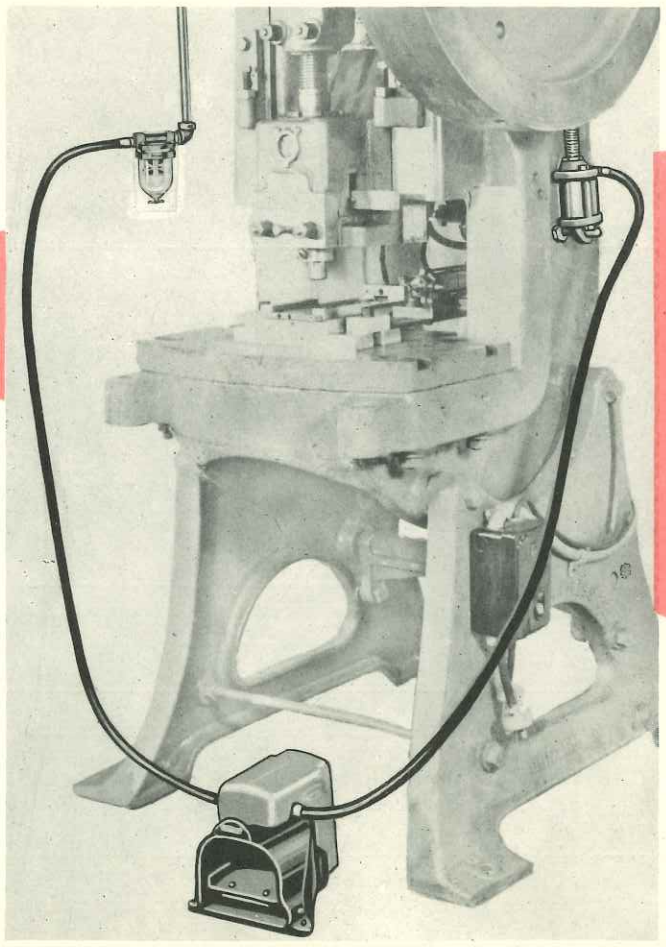
The No. 3235 type of press control is made up of standard Schrader parts, as shown in the schematic drawing below. These are shown in the proper sequence for power press installation and may be ordered for replacement by referring to the chart below.

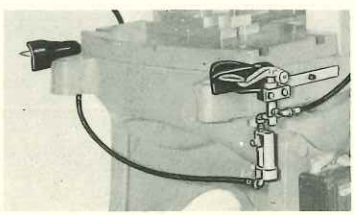




Foot-Operated Pneumatic Press Controls for Continuous Action Clutches

Foot-Operated Pneumatic Press Controls for Single Acting Clutches





HAND OPERATION
for hand operated controls see complete sets on page 67

Convert Machines with Repeat Type Clutches to Desirable Single Action

When an operator's hands must synchronize with foot actuation of mechanical pedals in machines with continuous action clutches, there is a definite hazard. The Schrader No. 3298W Pneumatic Foot Control not only provides tip-toe operation, eliminating fatigue, but provides a single action mechanism that requires a definite foot action for each movement of the ram. This type of control is particularly desirable where work must be continuously handled by one or both hands. The foot valve is portable and can be readily moved or raised off the floor to operate the press from any position. For Hand-Operated Press Controls, see page 67.

These press controls are packaged as complete units and vary only in length of cylinder stroke. Select from the chart below the Schrader number of the set that corresponds with the stroke of the clutch arm (allowing a plus tolerance). Bolts, washers and installation instructions are included with each set.

STANDARD PACKAGED SETS

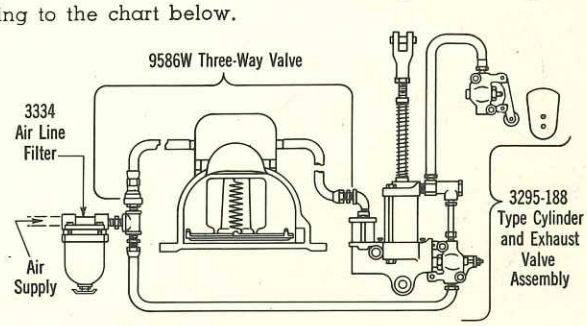
Schrader Number	Cylinder stroke	Schrader Number	Cylinder Stroke
3298AW	½″	3298GW	2″
3298BW	¾″	3298HW	2¼″
3298CW	1″	3298JW	2½″
3298DW	1¼″	3298KW	2¾″
3298EW	1½″	3298LW	3″
3298FW	1¾″		

A No. 3298W Type Set Consists of:

Quantity	Schrader Number	Description
1	3334	Air Line Filter
1	9586W	Three-Way Valve
1	3295-188 (Type)	Cylinder & Exhaust Valve Assembly

LAYOUT FOR 3298W MACHINE CONTROLS

The No. 3298W type of press control is made up of standard Schrader parts, as shown in the schematic drawing below. These are shown in the proper sequence for power press installation and may be ordered for replacement by referring to the chart below.



Convert Machines Having Single Action Clutches to Easy Tip-toe Operation

The Schrader No. 3299W type press control is designed to operate power presses having single action clutches and has all of the features characteristic of the No. 3298W type control. The fully enclosed, portable foot-operated valve is heavy enough to prevent "creeping" under working conditions and yet can be readily moved to the most comfortable operating position. Awkward "heaving" of hip and shoulder required with mechanical foot pedals is completely eliminated and high production is obtained with minimum fatigue.

These press controls are packaged as complete units and vary only in length of cylinder stroke. Select from the chart below the Schrader number of the set that corresponds with the stroke of the clutch arm (allowing a plus tolerance). Bolts, washers and installation instructions are included with each set.

STANDARD PACKAGED SETS

Schrader Number	Cylinder stroke	Schrader Number	Cylinder stroke
3299	¼″	3299FW	1¾″
3299AW	½″	3299GW	2″
3299BW	¾″	3299HW	2¼″
3299CW	1″	3299JW	2½″
3299DW	1¼″	3299KW	2¾″
3299EW	1½″	3299LW	3″

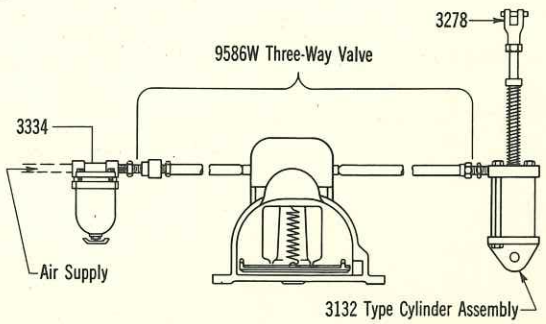
A No. 3299W Type Set Consists of:

Quantity	Schrader Number	Description
1	3334	Air Line Filter
1	9586W	Three-Way Valve
1	3278	Clevis
1	3132 (Type)	Cylinder

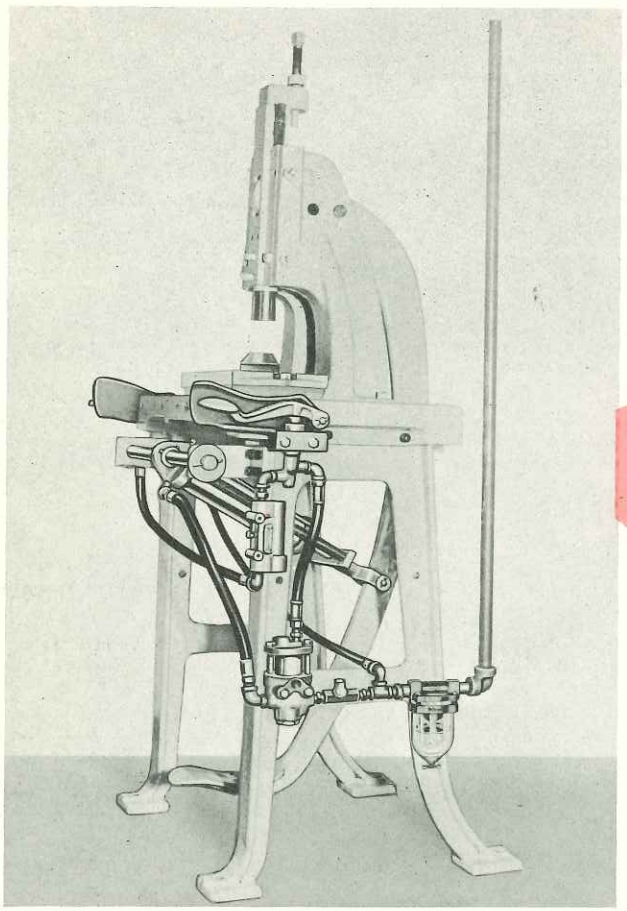
Schrader Machine Controls should be operated at appoximately 80 p.s.i. air line pressure. The use of an Air Line Pressure Regulator (see page 20) is recommended if your line pressure is higher. To assure best performance of your machine controls install a Schrader Air Line Lubricator (See page 20).

LAYOUT FOR 3299W MACHINE CONTROLS

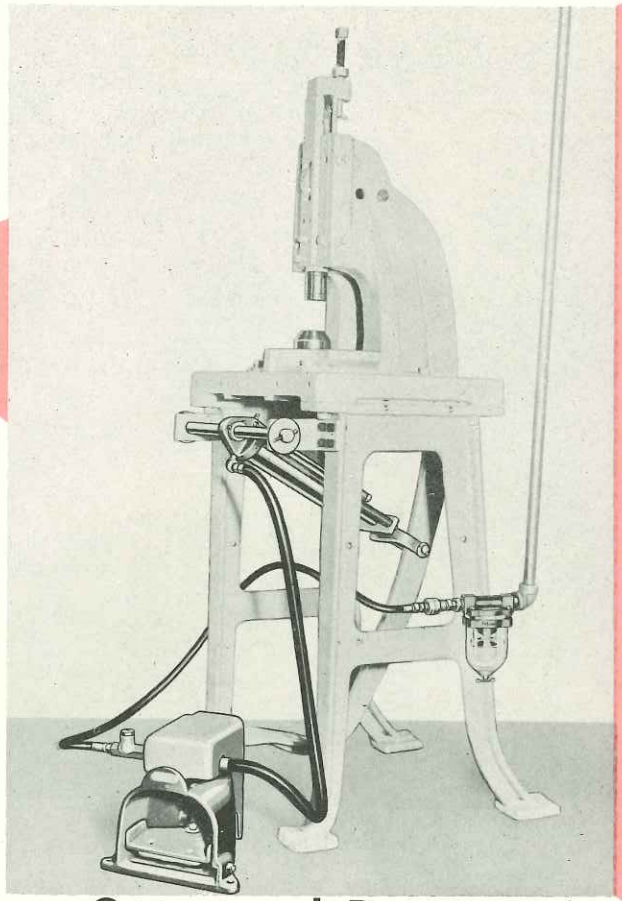
The No. 3299W type press control is made up of standard Schrader parts, as shown in the schemaitc drawing below. These are shown in the proper sequence for power press installation and may be ordered for replacemnt by referring to the chart below.



FOOT PRESS AND SHEAR CONTROLS



Hand-Operated Pneumatic Foot Press Controls



Foot-Operated Pneumatic Foot Press Controls

Foot-Operated Pneumatic Shear Controls

Schrader
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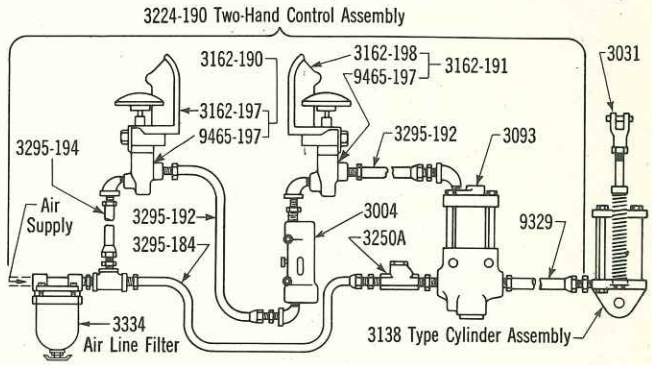
Hand-Operated Pneumatic Foot Press Controls

You can eliminate tiresome, inconsistent foot-powered press operation by installing the No. 3224 type Hand-Operated Control Set. Any foot press equipped with this set will relieve the operator of supplying the **force** for the press and give him **control** of the smooth power of an air cylinder instead. This control of the power is accomplished through two operating valves of the type described on pages 66 and 67. With this two-hand control, press operation and press feeding can be synchronized to provide maximum production. The speed of the ram on the power stroke can be controlled from very slow for broaching, squeezing and driving operations to very fast for punching operations. Once set, the press will deliver uniform power strokes, thereby assuring consistent production and less work spoilage. These sets are packaged as complete units and vary only in length of cylinder strokes.

LAYOUT FOR STANDARD MACHINE CONTROLS

The No. 3224 type press control is made up of standard Schrader parts, as shown in the schematic drawing. These are shown in the proper sequence for power press installation and may be ordered for replacement by referring to the chart below.



A No. 3224 Type Set Consists of:

Quantity	Schrader Number	Description
1	3334	Air Line Filter
1	3162-197	Bracket & Lever (L.H.)
1	3162-198	Bracket & Lever (R.H.)
2	9465-197	Three-Way Valve
1	3004	Cutout Valve
1	3250A	Flow Control Valve
1	3093	Pilot Valve
1	3138 (Type)	Cylinder
1	3031	Clevis
6		Lengths of Fitted Hose

STANDARD PACKAGED SETS

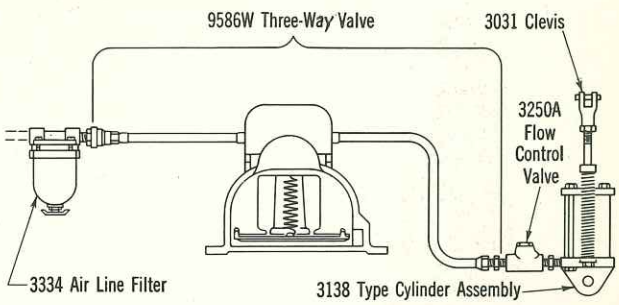
Cylinder Stroke	1″	2″	3″	4″	5″	6″	7″	8″	9″	10″
Schrader Number	3224	3224A	3224B	3224C	3224D	3224E	3224F	3224G	3224H	3224J

Foot-Operated Pneumatic Foot Press Controls

The Schrader No. 3225W type Foot-Operated Control Set offers the same advantages as for the Hand-Operated set described above, but is designed for operating presses where the operator must have his hands free at all times for some other operation, such as continuous or strip feeding. These sets are packaged as complete units and vary only in length of cylinder strokes. Both the Hand-Operated and the Foot-Operated Foot Press Control sets described on this page provide fast action press operation, but if greater speed on the return strokes of the ram is desired, we recommend you install a Schrader No. 3340 Quick Exhaust Valve (see page 44) on the air cylinder.

LAYOUT FOR STANDARD MACHINE CONTROLS

The No. 3225W type press control is made up of standard Schrader parts, as shown in the schematic drawing. These are shown in the proper sequence for power press installation and may be ordered for replacement by referring to the chart below.



A No. 3225W Type Set Consists of:

Quantity	Schrader Number	Description
1	3334	Air Line Filter
1	3250A	Flow Control Valve
1	9586W	Three-Way Valve
1	3138 (Type)	Cylinder
1	3031	Clevis

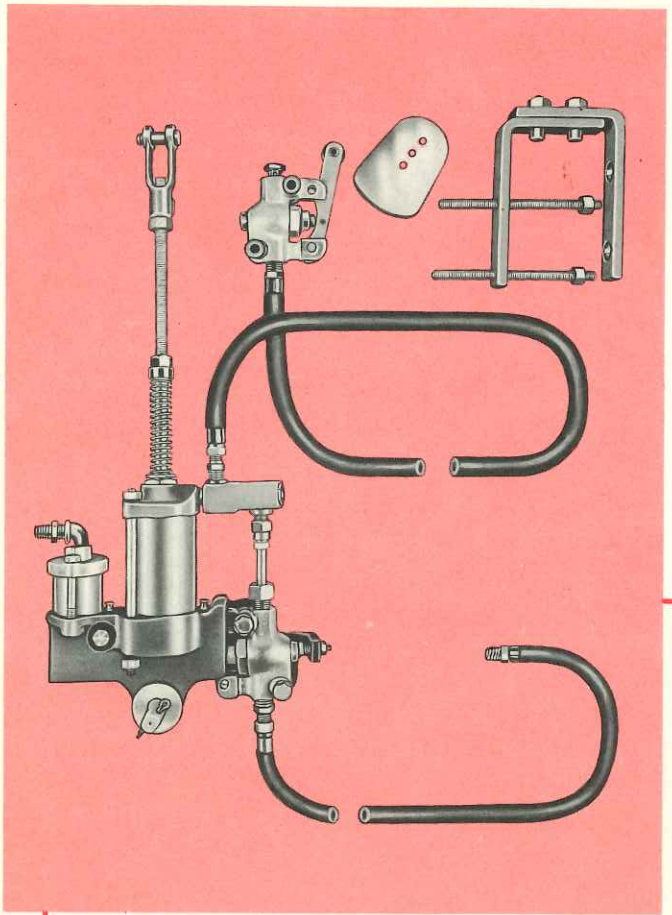
STANDARD PACKAGED SETS

Cylinder Stroke	1″	2″	3″	4″	5″	6″	7″	8″	9″	10″
Schrader Number	3225W	3225AW	3225BW	3225CW	3225DW	3225EW	3225FW	3225GW	3225HW	3225JW

Foot-Operated Pneumatic Shear Controls

Schrader Pneumatic Controls are unbeatable for operating shears. Merely touching a foot pedal releases the air power that does the work. With the moveable foot pedal, one man can now position work and actuate the shear . . . and remember, with Schrader Controls, production can be greatly increased. Controls for all types of shears are available upon request.

Cylinder and Exhaust Valve Assemblies

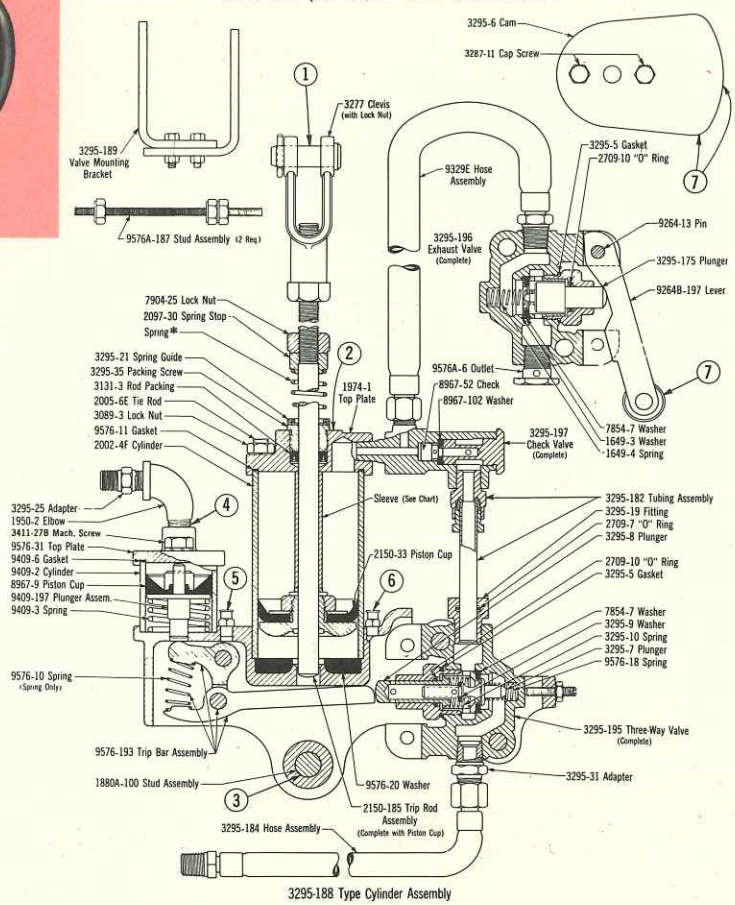


The No. 3295–188 type Cylinder and Exhaust Valve Assembly shown at left and below, is the mechanism which converts power presses with continuous action mechanical clutches to the more desirable single action in Schrader's No. 3295 and No. 3298W type Machine Control Sets (see pages 67 and 69). The drawing below will assist you in ordering replacement parts and in determining the proper sequence for assembling parts when servicing is required. When ordering, specify Schrader number and title of the part as shown on the drawing.

Schrader Number	Cylinder Stroke	Sleeve	Spring
3295A-188	½"	2150A-66	1880A-45
3295B-188	¾"	2150B-66	1880A-45
3295C-188	1"	2150C-66	1880C-45
3295D-188	1¼"	2150D-66	1880C-45
3295E-188	1½"	2150E-66	1880E-45
3295F-188	1¾"	2150F-66	1880E-45
3295G-188	2"	2150G-66	1880G-45
3295H-188	2¼"	2150H-66	1880G-45
3295J-188	2½"	2150J-66	1880J-45
3295K-188	2¾"	2150K-66	1880J-45
3295L-188	3"	2150L-66	1472B-45

*For Schrader number of springs and sleeves, see chart above.

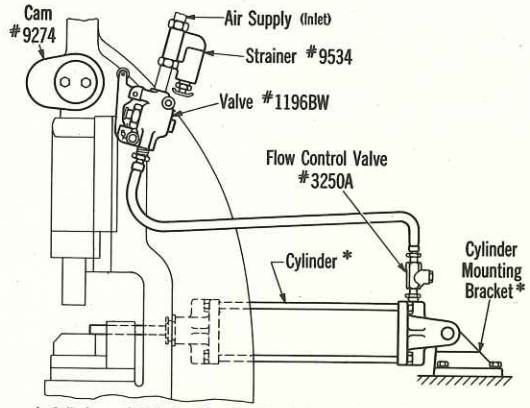
OIL WEEKLY (SAE #30) AT POINTS 1, 2, 3, 4, 5, 6, 7



3295-188 Type Cylinder Assembly

* When ordering springs or sleeves be sure to indicate stroke of cylinder and the Schrader number of the cylinder assembly in which they will be used.

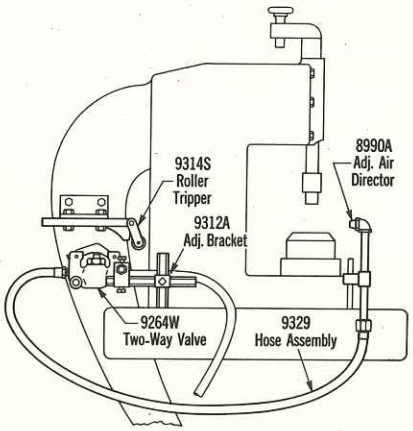
Cylinder Knockout Set



* Cylinder and Cylinder Mounting Bracket are not Supplied with Set. Order Separately

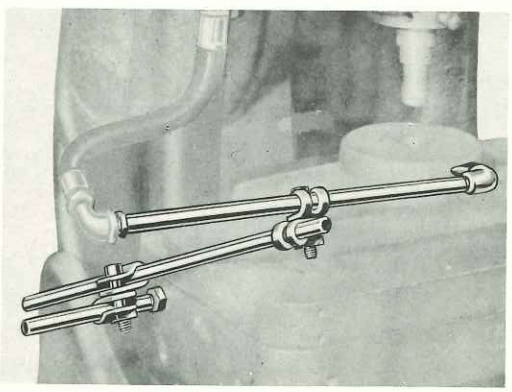
Schrader No. 3037W-190 Cylinder Knockout Set—This operating unit has been designed for ejecting work which cannot be blown from dies by an air blast. In this type of installation, a push-type cylinder with spring return is controlled by a three-way valve which in turn is actuated by a cam mounted on the press crankshaft. The cam can be adjusted to actuate the knockout cylinder at any point during the press cycle. Thus the ejection can be synchronized with the action of the press. Just select a suitable cylinder (see page 49) for your job and assemble it with this Operating Unit.

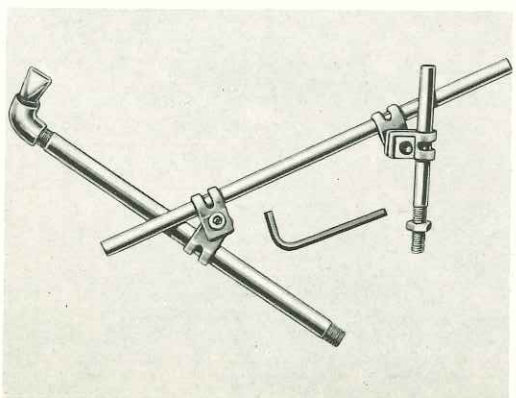
Foot Press Air Ejection Set



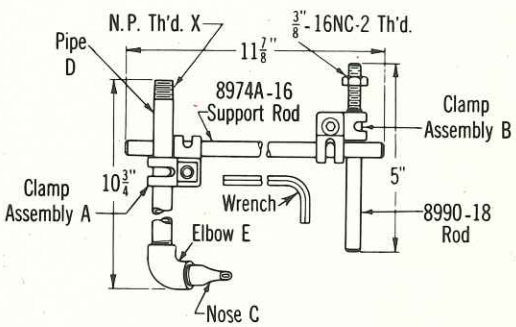
Schrader No. 3260W Foot Press Air Ejection Set—This Schrader Ejection set designed especially for Kick Press work takes its actuation from the arm of the press in such a way that it delivers its blast after the ram has made its stroke thus ejecting the finished part from the die. The roller tripper can be adjusted to deliver the air blast at any time during the press cycle.

ADJUSTABLE AIR DIRECTORS





This device directs air blasts as required and is held rigidly in position by locking swivel-slide joints. Adjustments permit a variety of angles of approach to the work for best ejection. Single bolt mounting.



Schrader No.	Male N.P. th'd X	Clamp assembly A	Clamp assembly B	Nose C	Pipe D	Elbow E	Flow cap'y (cu.ft.) *
8990A	1/8	8974A-198	8974A-198	8973	8990A-17	8990-5	30
8974A	1/4	8974A-197	8974A-198	8974-6	8974A-17	8974-5	60

*Based on Cubic Feet of Free Air at 100 p.s.i. inlet pressure.

Install these compact power-packed Schrader Air Presses

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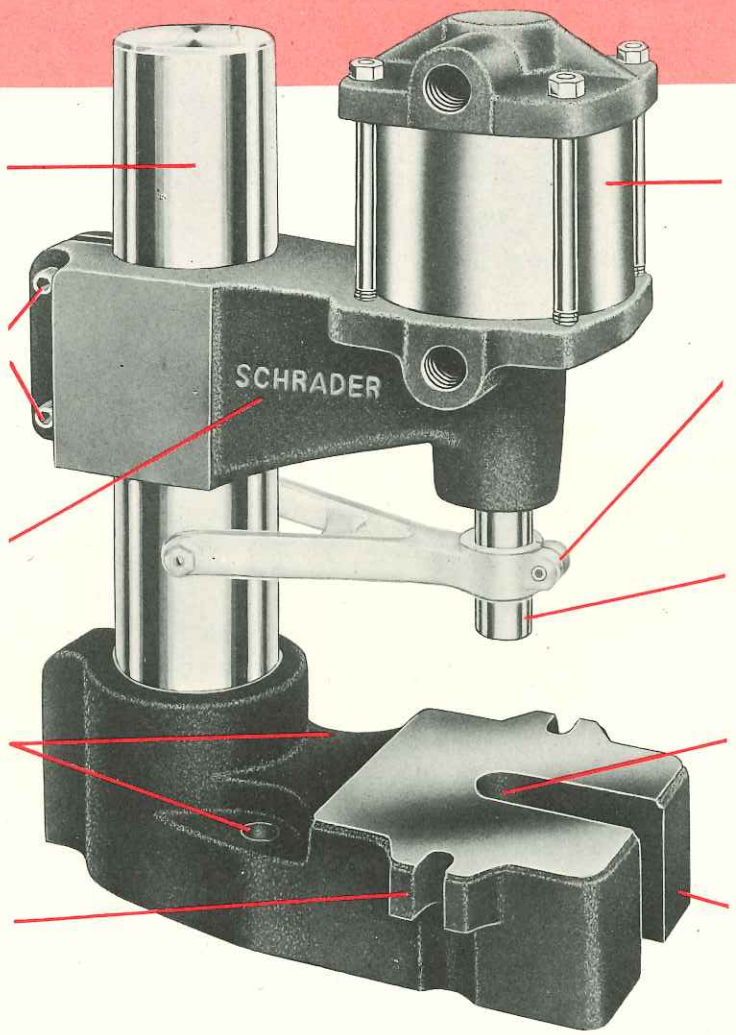


STURDY, RIGID STEEL COLUMN
Assures accurate precision work.

TWO BOLT CLAMPING
Easy, positive adjustment of bracket for any desired ram positioning from 0" to 8" on height and swing arc 2" on each side of center.

RUGGED CYLINDER BRACKET
Heavily constructed, accurately machined for rigid positioning on steel column.

TWO MOUNTING BOLT HOLES
Assures firm sturdy anchoring to bench.

TWO SPECIAL MOUNTING LUGS
For convenient set up and interchanging dies.

HEAVY DUTY CYLINDER
Designed specifically for Air Press work. Extra heavy cylinder wall, tie rods, and piston construction for long, trouble-free life.

GUIDE ARM ATTACHMENT*
Clamps piston rod to prevent rotating for matching dies in precision work like numbering, coining, etc.

GROUND AND POLISHED PISTON
Full 2 inch travel—assures a wide range of job possibilities from shallow stamping to deep broaching.

SPECIAL RECESS IN TABLE
Provides for punch-through operations.

HEAVY, RUGGED BASE
Large work table area with machined surface. Extra weight for sturdiest foundation.

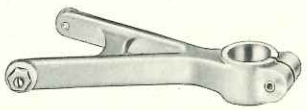
(*NOT INCLUDED WITH PRESS—Specify separately [below]).

The speed, power and positive performance of these new Schrader Air Presses put these machines on the top of the list in modern machine tool developments. The number of different jobs a battery of these presses will do better is limited only by the number of ideas you get as you check the features. The extra deep throat, the range of adjustments from daylight to 8 full inches, the large table recessed for punch-through work, the lugs for easiest set-up of dies — all make the Schrader Air Press the most versatile and practical low cost machine tool investment. They are available with 2" or 4" Cylinder Bore in both double and single acting types. Single acting types are especially suited for *IMPACT* work. Ram force is *12 times line pressure* (3 times for 2" Bore). Control and speed of the cylinder ram can be varied to fit your needs, from the complete line of the standard Schrader Air Control Accessories.

ORDER YOUR SCHRADER AIR PRESS FROM THIS CHART

Schrader No. Press Only	Type	Cylinder Dia.	Stroke	Threads	Ram Force at 100 Psi
3394	Double Acting	2"	2"	¼ N.P.T.	300 lbs.
3395	Single Acting	2"	2"	¼ N.P.T.	300 lbs.
3396	Double Acting	4"	2"	⅜ N.P.T.	1200 lbs.
3397	Single Acting	4"	2"	⅜ N.P.T.	1200 lbs.

AIR PRESS GUIDE ARM



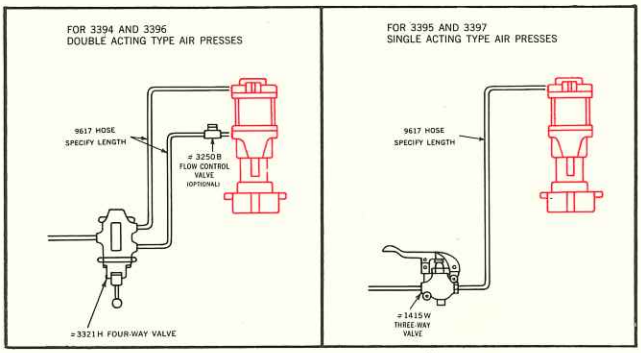
Schrader #3460 Guide Assembly

Special accessory for Schrader Air Presses with 4" diameter type cylinders. Clamps cylinder piston so it cannot rotate. Attaches to column to guide piston accurately. Assures matching dies in precision work where numbering, coining, etc. must be uniform. Removable — interchangeable.

CONTROL SET COMPONENTS FOR OPERATING AIR PRESSES

Use these handy diagrams for specifying the Schrader standard parts required to quickly set up the control method you prefer.

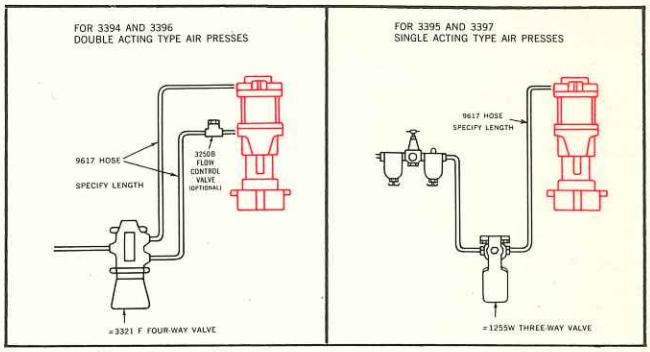
SUGGESTED HAND ACTUATED CONTROLS FOR AIR PRESSES



For #3394 and #3396 Double Acting type Air Presses.

For #3395 and #3397 Single Acting type Air Presses.

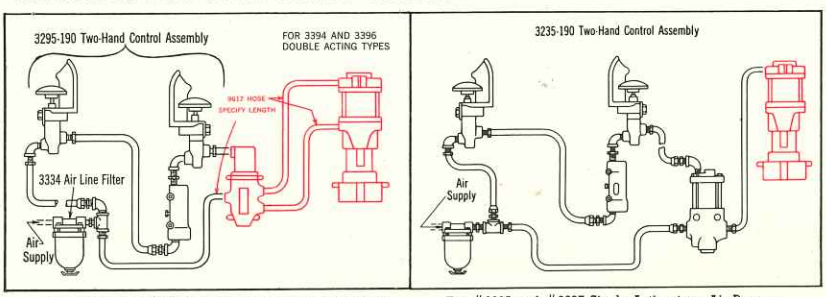
SUGGESTED FOOT ACTUATED CONTROLS FOR AIR PRESSES



For #3394 and #3396 Double Acting type Air Presses.

For #3395 and #3397 Single Acting type Air Presses.

SUGGESTED TWO HAND SAFETY CONTROL ASSEMBLIES FOR AIR PRESSES

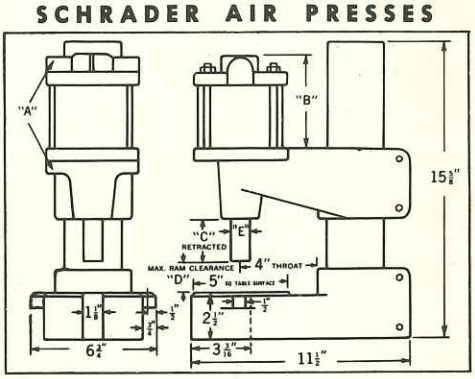


For #3394 and #3396 Double Acting type Air Presses.

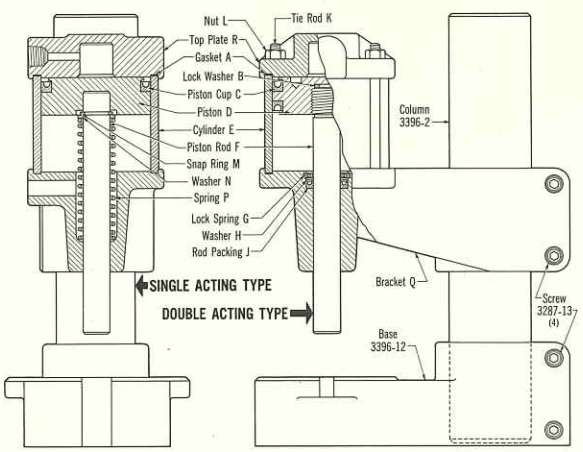
For #3395 and #3397 Single Acting type Air Presses.

- Other combinations of operating valves, including Quick Exhaust and Speed Control Valves are easily selected from the many accessories in this catalog.

DIMENSIONS CHART FOR SCHRADER AIR PRESSES



Schrader Press No.	Threads "A"	"B"	"C"	"D"	"E"
3394	¼ N.P.T.	4⅜"	1¼"	8⅛"	⅝"
3395	¼ N.P.T.	4⅜"	1¼"	8⅛"	⅝"
3396	⅜ N.P.T.	4⅞"	2 5/16"	8⅛"	1"
3397	⅜ N.P.T.	4⅞"	2 5/16"	8⅛"	1"



REPLACEMENT PARTS FOR SCHRADER AIR PRESSES

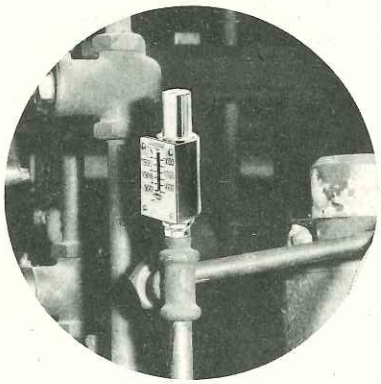
Schrader Number	Gasket A	Lock Washer B	Piston Cup C	Piston D	Cylinder E	Piston Rod F	Lock Spring G	Washer H	Rod Packing J	Tie Rod K	Nut L	Snap Ring M	Washer N	Spring P	Bracket Q	Top Plate R	Cylinder and Bracket Unit*
3394	3392-7(2)	3394-13	3290-26(2)	3394-11	3358-3D	3394-12	3394-8	3394-9	3122-3	2005-4F(4)	3089-3(4)	—	—	—	3394-1	3395-7	3394-197
3395	3392-7	—	3290-26	3395-4	3358-3D	3395-2	—	—	—	2005-4F(4)	3089-3(4)	3311-17	3395-5	3395-6	3395-1	3395-7	3395-197
3396	2086-10(2)	3396-15	3290-99(2)	3396-13	3106-3H	3396-14	3396-9	3396-10	3123-3	2102-5B(4)	3089-5(4)	—	—	—	3396-1	3397-7	3396-197
3397	2086-10	—	3290-99	3397-5	3106-3H	3397-2	—	—	—	2102-5B(4)	3089-5(4)	3311-29	3397-6	3397-4	3397-1	3397-7	3397-197

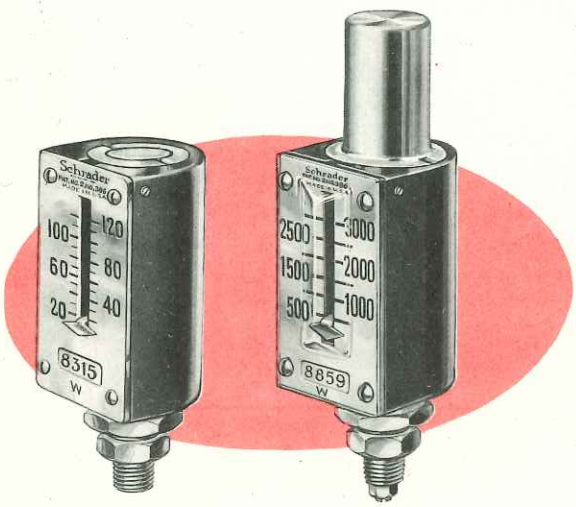
Number in Parenthesis indicates Quantity

*Cylinder and Bracket Unit consists of Parts "A" through "R" inclusive.

Shockproof Hydraulic Pressure Gauges

Standard and Enclosed Types





STANDARD TYPE ENCLOSED TYPE

Compact in size, these Schrader Hydraulic Gauges are engineered and built to stand up under long and hard use on all types of hydraulic machines. Consistent accuracy, even under shock and overload is assured by the direct action operating principle. These gauges are especially useful where space is limited. In the standard type the rise and fall of the plunger may be used to operate a micro-switch.

STANDARD TYPE

Schrader Number	Pressure Range (P.S.I.)	Calibrations: Numerals	Calibrations: Lines	Spring
8314W	5–50	5	2½	8314–11
3480W	10–100	10	5	3479–11
8315W	20–120	20	10	8315–11
8316W	50–350	50	25	8316–11
9114W	50–500	50	25	9114–11
9111W	100–800	100	50	8862–11
8317W	200–1200	200	100	8317–11
8318W	300–1800	300	100	8318–11
8319W	500–3000	500	500	8718–11
8320W	1500–5000	500	500	8320–11

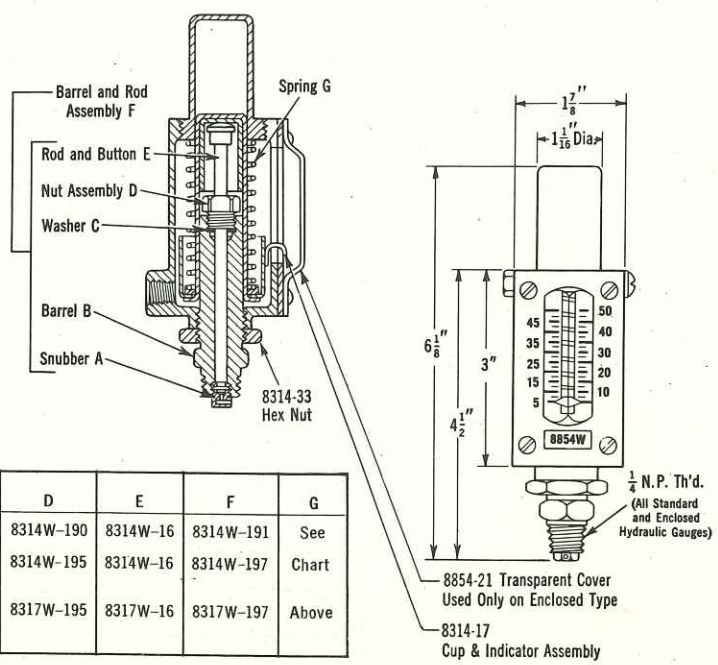
ENCLOSED TYPE

Schrader Number	Pressure Range (P.S.I.)	Calibrations: Numerals	Calibrations: Lines	Spring
8854W	5–50	5	2½	8314–11
3479W	10–100	10	5	3479–11
8855W	20–120	20	10	8315–11
8856W	50–350	50	25	8316–11
9115W	50–500	50	25	9114–11
8862W	100–800	100	50	8862–11
8857W	200–1200	200	100	8317–11
8858W	300–1800	300	100	8318–11
8859W	500–3000	500	500	8718–11
8860W	1500–5000	500	500	8320–11

The enclosed type Schrader Hydraulic Pressure Gauge has a transparent plastic face, and a brass cap enclosing the plunger and protecting the working parts against dust and dirt. Otherwise the enclosed type is the same as the standard type.

REPLACEMENT PARTS

An available single unit'' barrel assembly will make any of these gauges as good as new when replacement parts are required. Parts can be ordered by specifying the Schrader number shown on the drawing at right.



Schrader Number	A	B	C	D	E	F	G
3479W, 3480W, 8314W 8315W, 8854W, 8855W	8314-28	8314W-2	8314W-66	8314W-190	8314W-16	8314W-191	See
8316W, 8856W 9114W, 9115W	8314-28	8314W-2	8314W-66	8314W-195	8314W-16	8314W-197	Chart
8317W, 8318W, 8319W 8320W, 8857W, 8858W 8859W, 8860W, 8862W 9111W	8317W-194	8317W-2	8317W-66	8317W-195	8317W-16	8317W-197	Above

Schrader
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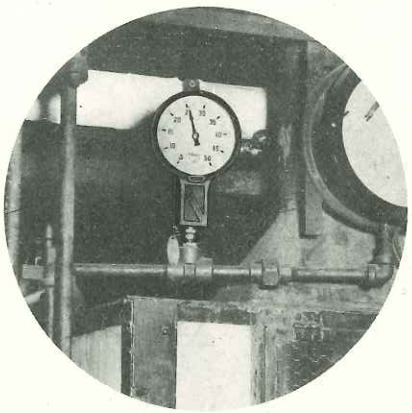
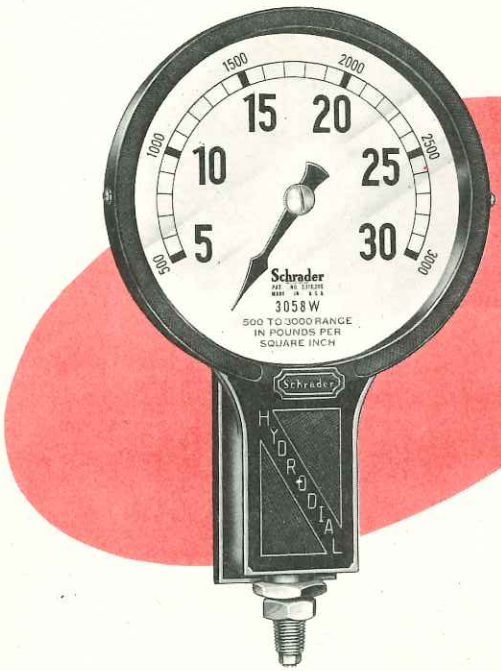
Shockproof Hydrodial Pressure Gauges

With Enclosed Dial

Built-in protection against shocks and overloads through application of the direct action principle of Schrader Standard Gauges makes Hydrodial Gauges reliable indicators of hydraulic pressure. They feature a large dial, white face and large, easy-to-read numerals. These heavy duty units are made in nine standard calibration ranges up to 5000 p.s.i.

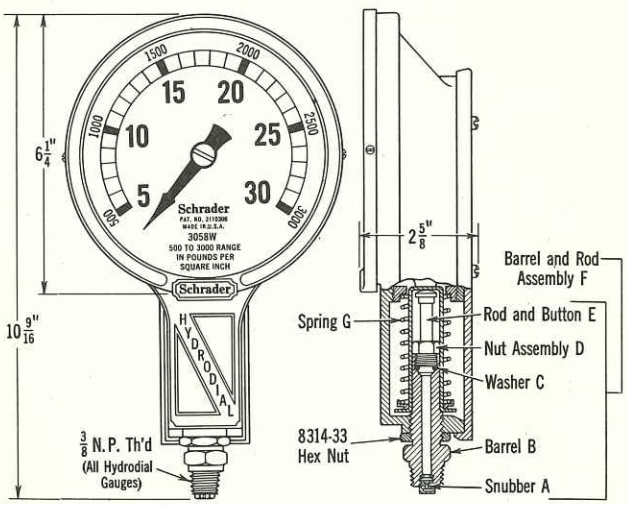




Hydrodial

FEATURES

- Withstands shock and overload
- Durable plastic face
- Direct action principle
- Can be read 50 feet away
- Built-in snubber
- Simple, quick installation
- Completely enclosed unit
- Ease of maintenance



Hydrodial Type

Schrader Number	Pressure Range	Calibrations		Spring
		Numerals	Lines	
3051W	5–50	5	5	8314–11
3052W	20–120	10	10	8315–11
3053W	50–350	50	50	8316–11
3054W	50–500	50	50	9114–11
3055W	100–800	100	100	8862–11
3056W	200–1200	200	100	8317–11
3057W	300–1800	300	100	8318–11
3058W	500–3000	500	100	8718–11
3059W	500–5000	500	100	8320–11

REPLACEMENT PARTS

For replacement parts refer to the drawing and order by Schrader number. "Single unit" barrel assembly makes maintenance easy.

Schrader Number	A	B	C	D	E	F	G
3051W, 3052W	8314–28	3051W–2	8314W–66	8314W–190	8314W–16	3051W–191	See
3053W, 3054W	8314–28	3051W–2	8314W–66	8314W–195	8314W–16	3051W–197	Chart
3055W, 3056W							
3057W, 3058W, 3059W	8317W–194	3057W–2	8317W–66	8317W–195	8317W–16	3057W–197	Above

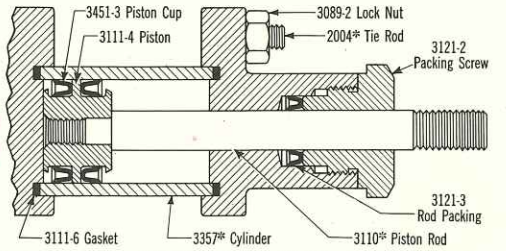
Parts for all Schrader Cylinders shown on previous pages (49 thru 59) are easily ordered by the Schrader identifying numbers listed in the following sectional drawings and corresponding charts. Simply:—

1. Identify the complete Cylinder by its Schrader number from the Catalog information on the preceding pages and
2. Look up the cylinder number in the numerical list below for the right parts drawing arranged in alphabetical order on the following pages.

NUMERICAL INDEX OF CYLINDERS VS. PARTS DRAWINGS

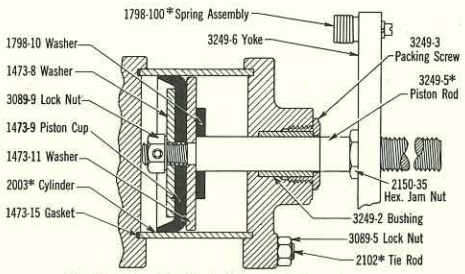
Schrader Complete Cylinder No.	See Parts Drawing	Schrader Complete Cylinder No.	See Parts Drawing	Schrader Complete Cylinder No.	See Parts Drawing
3111	A	3247	F	3382	I
3112	G	3249	B	3383	I
3113	G	3251	G	3384	I
3131	C	3252	G	3386	H
3132	C	3253	G	3388	H
3133	C	3254	G	3391	A
3138	F	3256	E	3392	G
3142	I	3258	E	3393	G
3143	I	3281	I	3421	I
3151	D	3282	I	3422	I
3152	D	3283	I	3423	I
3153	D	3284	I	3424	I
3171	G	3286	H	3426	H
3172	G	3288	H	3428	H
3173	G	3291	A	3431	G
3174	G	3292	G	3432	G
3176	E	3293	G	3433	G
3178	E	3362	I	3434	G
3181	I	3363	I	3436	E
3182	I	3371	G	3438	E
3183	I	3372	G	3442	I
3184	I	3373	G	3443	I
3186	H	3374	G	3471	A
3188	H	3376	E	3472	G
3222	I	3378	E	3473	G
3223	I	3381	I		

A



Parts for Nos. 3111, 3291, 3391, 3471 Cylinders

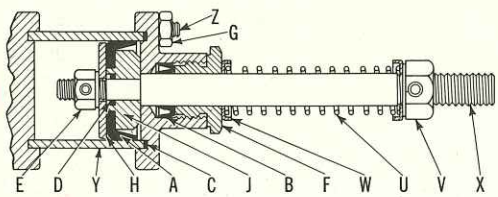
B



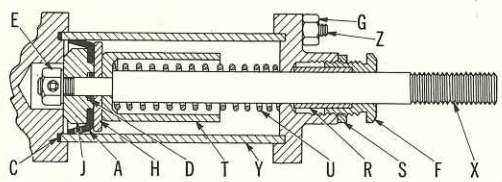
*Specify cylinder stroke (in inches) when ordering these parts

Parts for No. 3249 Cylinder

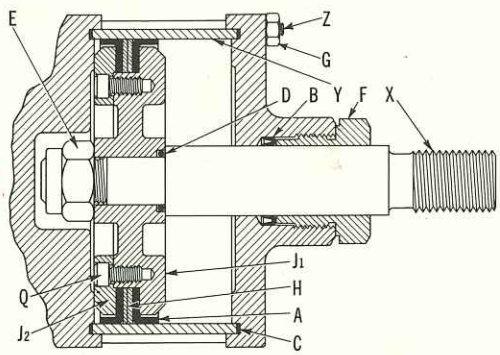
C



D



E



*Specify cylinder stroke (in inches) when ordering these parts.

CHART FOR C

Schrader Number	Bore (Inches)	Piston Cup A	Rod Packing B	Gasket C	"O" Ring D	Lock Nut E	Packing Screw F	Lock Nut G	Spacer H	Piston J	Spring U	Lock Nut V	Spring Guide W	Piston Rod X	Cylinder Y	Tie Rod Z
3131	1½	3431-4	3131-3	9409-6	2709-6	3348-3	3131-5	3089-3	3431-6	3431-7	3151-6*	3089-10	3131-4	3120*	2001*	2005*
3132	2¼	3132-10	3122-3	9576-11	2709-10	3348-9	3122-2	3089-3	3132-12	3132-11	3192-6*	3089-14	3122-4	3169*	2002*	2005*
3133	3½	3200-20	3123-3	1473-15	2709-12	3348-13	3123-5	3089-5	3433-3	3433-4	3193-6*	3089-19	3123-4	3140*	2003*	2102*

CHART FOR D

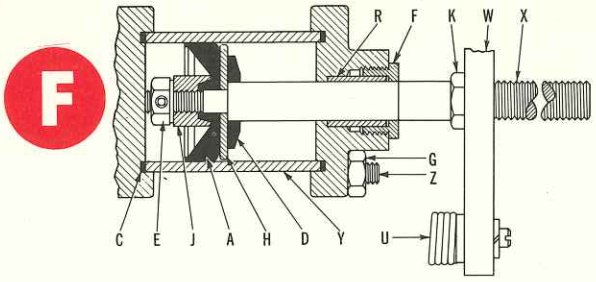
Schrader Number	Bore (Inches)	Piston Cup A	Gasket C	"O" Ring D	Lock Nut E	Packing Screw F	Lock Nut G	Spacer H	Piston J	Bearing R	Lock Nut S	Sleeve T	Spring U	Piston Rod X	Cylinder Y	Tie Rod Z
3151	1½	3431-4	9409-6	2709-6	3348-3	3151-2	3089-3	3431-6	3431-7	3151-3	8967-65	3151-5*	3151-6*	3120*	2001*	2005*
3152	2¼	3132-10	9576-11	2709-10	3348-9	3192-2	3089-3	3132-12	3132-11	3192-3	3132-4	3192-5*	3192-6*	3169*	2002*	2005*
3153	3½	3200-20	1473-15	2709-12	3348-13	3193-2	3089-5	3433-3	3433-4	3193-3	2086-8	3193-5*	3193-6*	3140*	2003*	2102*

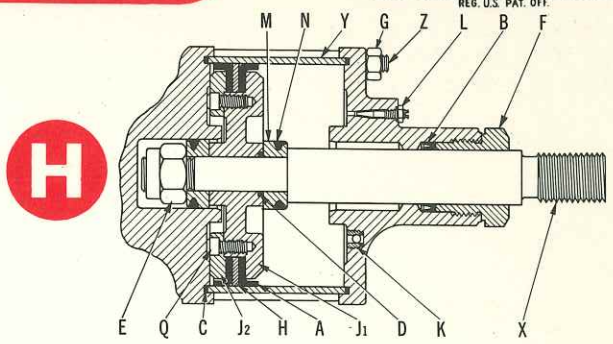
CHART FOR E

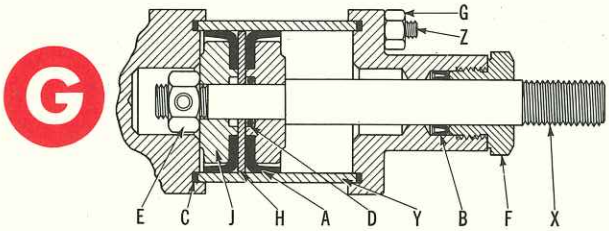
Schrader Number	Bore (Inches)	Piston Cup A	Rod Packing B	Gasket C	"O" Ring D	Lock Nut E	Packing Screw F	Lock Nut G	Piston Ring H	Bottom Piston J_1	Top Piston J_2	Cap Screw Q	Piston Rod X	Cylinder Y	Tie Rod Z
3176 3376 / 3256 3436	6	3386-14	3386-2	3386-11	2709-14	3089-16	3386-4	3089-7	3386-13	3386-3	3386-12	3386-17	3307*	3310*	3309*
3178 3378 / 3258 3438	8	3388-7	3388-22	3388-15	2709-23	3388-9	3388-21	3089-9	3388-8	3388-3	3388-4	3388-10	3126*	3128*	3129*

CYLINDER REPLACEMENT PARTS

Schrader
REG. U.S. PAT. OFF.







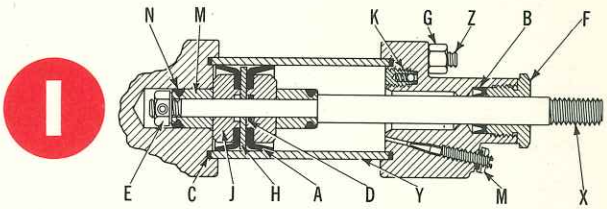


CHART FOR F

Schrader Number	Bore (Inches)	Piston Cup A	Gasket C	Rubber Washer D	Lock Nut E	Packing Screw F	Lock Nut G	Washer H	Collar J	Hex Nut K	Bushing R	Spring Assembly U	Yoke W	Piston Rod X	Cylinder Y	Tie Rod Z
3247	1½	8967-9	9409-6	1796-10	3089-3	3247-3	3089-2	8967-10	8967-64	7904-25	3247-2	1798-100*	3247-6	3247-5*	2001*	2004*
3138	2¼	2139-4	9576-11	2139-10	3089-3	3138-3	3089-3	8967A-10	2139-3	2034-7	3138-2	1798-100*	3138-6	3138-5*	2002*	2005*

CHART FOR G

Schrader Number	Bore (Inches)	Piston Cup A	Rod Packing B	Gasket C	"O" Ring D	Lock Nut E	Packing Screw F	Lock Nut G	Spacer H	Piston J	Piston Rod X	Cylinder Y	Tie Rod Z
3171 3251	1½	3431-4	3131-3	9409-6	2709-6	3348-3	3131-5	3089-3	3431-6	3431-7	3104*	2001*	2005*
3371 3431													
3112 3292	2	3392-6	3122-3	3392-7	2709-10	3089-10	3122-5	3089-3	3392-5	3392-4	3085*	3358*	2005*
3392 3472													
3172 3252	2¼	3132-10	3122-3	9576-11	2709-10	3089-10	3122-5	3089-3	3132-12	3132-11	3085*	2002*	2005*
3372 3432													
3113 3293	3	3223-6	3123-3	3223-7	2709-12	3089-14	3123-5	3089-5	3223-5	3223-4	3105*	3359*	2102*
3393 3473													
3173 3253	3½	3200-20	3123-3	1473-15	2709-12	3089-14	3123-5	3089-5	3433-3	3433-4	3105*	2003*	2102*
3373 3433													
3174 3254	4	3254-5	3123-3	2086-10	2709-12	3089-14	3123-5	3089-5	3254-7	3254-6	3105*	3106*	2102*
3374 3434													

CHART FOR H

Schrader Number	Bore (Inches)	Piston Cup A	Rod Packing B	Gasket C	"O" Ring D	Lock Nut E	Packing Screw F	Lock Nut G	Piston Ring H	Bottom Piston J_1	Top Piston J_2	Ball Check Unit K	Screw Assembly L	Plunger Assembly M	Plunger Washer N	Cap Screw Q	Piston Rod X	Cylinder Y	Tie Rod Z
3186 3386	6	3386-14	3386-2	3386-11	2709-14	3089-16	3386-4	3089-7	3386-13	3386-3	3386-12	3186-75	3183-50	3386-196	3386-6	3386-17	3308*	3310*	3309*
3286 3426																			
3188 3388	8	3388-7	3388-22	3388-15	2709-23	3388-9	3388-21	3089-9	3388-8	3388-3	3388-4	3186-75	3183-50	3388-196	3388-6	3388-10	3127*	3128*	3129*
3288 3428																			

CHART FOR I

Schrader Number	Bore (Inches)	Piston Cup A	Rod Packing B	Gasket C	"O" Ring D	Lock Nut E	Packing Screw F	Lock Nut G	Spacer H	Piston J	Ball Check Unit K	Screw Assembly L	Plunger Assembly M	Plunger Washer N	Piston Rod X	Cylinder Y	Tie Rod Z
3181 3281	1½	3431-4	3131-3	9409-6	2709-6	3348-3	3131-5	3089-3	3431-6	3431-7	1992-75	3181-50	3421-197	1994-6	3125*	2001*	2005*
3381 3421																	
3142 3222	2	3392-6	3122-3	3392-7	2709-10	3089-10	3122-5	3089-3	3392-5	3392-4	1992-75	3181-50	3222-197	1996-13	3130*	3358*	2005*
3362 3442																	
3182 3282	2¼	3132-10	3122-3	9576-11	2709-10	3089-10	3122-5	3089-3	3132-12	3132-11	1992-75	3181-50	3222-197	1996-13	3130*	2002*	2005*
3382 3422																	
3143 3223	3	3223-6	3123-3	3223-7	2709-12	3089-14	3123-5	3089-5	3223-5	3223-4	1996-75	3183-50	3223-197	3223-12	3149*	3359*	2102*
3363 3443																	
3183 3283	3½	3200-20	3123-3	1473-15	2709-12	3089-14	3123-5	3089-5	3433-3	3433-4	1996-75	3183-50	3223-197	3223-12	3149*	2003*	2102*
3383 3423																	
3184 3284	4	3254-5	3123-3	2086-10	2709-12	3089-14	3123-5	3089-5	3254-7	3254-6	1996-75	3183-50	3223-197	3223-12	3149*	3106*	2102*
3384 3424																	

*Specify cylinder stroke (in inches) when ordering these parts.

LIST OF TOP AND BOTTOM PLATES FOR CYLINDERS **

Schrader Number	Top Plate	Bottom Plate	Schrader Number	Top Plate	Bottom Plate	Schrader Number	Top Plate	Bottom Plate	Schrader Number	Top Plate	Bottom Plate	Schrader Number	Top Plate	Bottom Plate
3111	3111-1	3111-16	**3176**	3176-1	3176-16	**3256**	3256-1	3256-16	**3374**	3374-1	3374-16	**3426**	3186-1	3426-16
3112	3112-1	3112-16	**3178**	3178-1	3178-16	**3258**	3258-1	3258-16	**3376**	3376-1	3376-16	**3428**	3188-1	3428-16
3113	3473-1	3113-16	**3181**	3421-1	3181-16	**3281**	3281-1	3281-16	**3378**	3378-1	3378-16	**3431**	3431-1	3431-16
3131	3431-1	3131-16	**3182**	3422-1	3182-16	**3282**	3282-1	3282-16	**3381**	3381-1	3381-16	**3432**	3132-1	3432-16
3132	3132-1	3132-16	**3183**	3183-1	3183-16	**3283**	3283-1	3283-16	**3382**	3382-1	3382-16	**3433**	3433-1	3433-16
3133	3433-1	3133-16	**3184**	3184-1	3184-16	**3284**	3284-1	3284-16	**3383**	3383-1	3383-16	**3434**	3434-1	3434-16
3138	3138-1	1797-3	**3186**	3186-1	3186-16	**3286**	3286-1	3286-16	**3384**	3384-1	3384-16	**3436**	3176-1	3436-16
3142	3442-1	3142-16	**3188**	3188-1	3188-16	**3288**	3288-1	3288-16	**3386**	3386-1	3386-16	**3438**	3178-1	3438-16
3143	3443-1	3143-16	**3222**	3222-1	3222-16	**3291**	3291-1	3291-16	**3388**	3388-1	3388-16	**3442**	3442-1	3442-16
3151	3151-1	3171-16	**3223**	3223-1	3223-16	**3292**	3292-1	3292-16	**3391**	3391-1	3391-16	**3443**	3443-1	3443-16
3152	3152-1	3172-16	**3247**	3247-1	1796-3	**3293**	3293-1	3293-16	**3392**	3392-1	3392-16	**3471**	3111-1	3471-16
3153	3153-1	3173-16	**3249**	3249-1	1798-3	**3362**	3362-1	3362-16	**3393**	3393-1	3393-16	**3472**	3112-1	3472-16
3171	3431-1	3171-16	**3251**	3251-1	3251-16	**3363**	3363-1	3363-16	**3421**	3421-1	3421-16	**3473**	3473-1	3473-16
3172	3132-1	3172-16	**3252**	3252-1	3252-16	**3371**	3371-1	3371-16	**3422**	3422-1	3422-16			
3173	3433-1	3173-16	**3253**	3253-1	3253-16	**3372**	3372-1	3372-16	**3423**	3183-1	3423-16			
3174	3434-1	3174-16	**3254**	3254-1	3254-16	**3373**	3373-1	3373-16	**3424**	3184-1	3424-16			

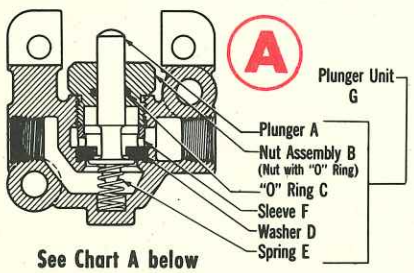
**Top plate can be identified by the hole for the piston rod. The bottom plate does not have this hole.

2, 3, 4-WAY VALVE REPLACEMENT PARTS

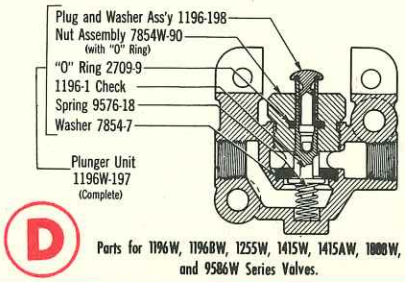
Parts for all Schrader Valves shown on previous pages (23 thru 46) are easily ordered by the Schrader identifying numbers listed in the following sectional drawings and corresponding charts. Simply:—

1. Identify the complete valve by its Schrader number from the Catalog information on the preceding pages and
2. Look up the valve number in the numerical list below for the right parts drawing arranged in alphabetical order on the following pages.

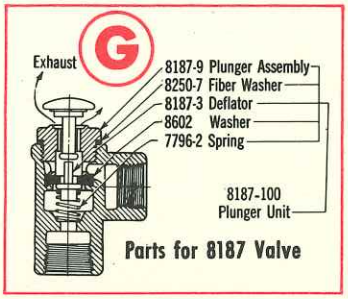
Schrader Number	Parts Drawing	Schrader Number	Parts Drawing	Schrader Number	Parts Drawing	Schrader Number	Parts Drawing	Schrader Number	Parts Drawing	Schrader Number	Parts Drawing	Schrader Number	Parts Drawing	Schrader Number	Parts Drawing
810P	W,X	8285,SA, SB,T	W,Z	9785,SA, SB,T	V	1521W	A	3150	S	3322F	K,O	34565,SA, SB,T	W,Y	8967-70	I
8105,SA, SB,T	W,Y	8525,SA, SB,T	W,Z	9825,SA, SB,T	V	1521AW	A	3150F	S	3322FL	K,L	3457P	W,X	9264W	A
811P	W,X	8535,SA, SB,T	W,Z	9835,SA, SB,T	V	1524W	A	3190F	C	3322H	K,N	34575,SA, SB,T	W,Y	9264BW	A
8115,SA, SB,T	W,Y	8545,SA, SB,T	W,Z	9845,SA, SB,T	V	1524BW	A	3190H	C	3323F	K,O	3458P	W,X	9416W	F
812P	W,X	8555,SA, SB,T	W,Z	9865,SA, SB,T	V	1525W	A	3210	J	3323FL	K,L	34585,SA, SB,T	W,Y	9416AW	F
8125,SA, SB,T	W,Y	9725,SA, SB,T	V	9885,SA, SB,T	V	1526W	E	3210A	J	3323H	K,N	3476	Q	9465-197	I
813P	W,X	9735,SA, SB,T	V	1019W	R	1526BW	E	3230	J	3413	U	3477	P	9586W	D
8135,SA, SB,T	W,Y	9745,SA, SB,T	V	1196W	D	1527W	E	3230A	J	3414	U	7796	H	9586AW	D
8255,SA, SB,T	W,Z	9765,SA, SB,T	V	1196BW	D	1649W	B	3270	J	3415	U	7796V	H	9586BW	D
8265,SA, SB,T	W,Z			1255W	D	1794W	B	3270A	J	3416	U	7854W	F	9586CW	D
8275,SA, SB,T	W,Z			1415W	D	1888W	D	3280	J	3417	T	8047W	F	9586DW	D
				1415AW	D	2117W	E	3280A	J	3418	T	8187	G	9586EW	D
						2117AW	E	3320F	K,O	3419	T	8632W	F		
						2117BW	E	3320FL	K,L	3420	T	8831W	F		
						2117HW	E	3320H	K,N	3455P	W,X	8936W	R		
						2178W	B	3321F	K,O	3455S,SA, SB,T	W,Y				
						2178BW	B	3321FL	K,L	3456P	W,X				
						3136	H	3321H	K,N						



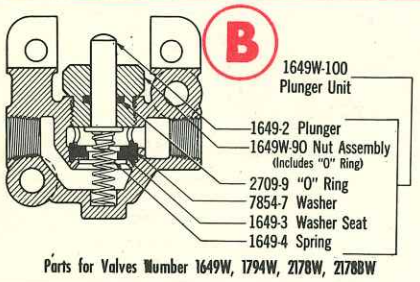
See Chart A below



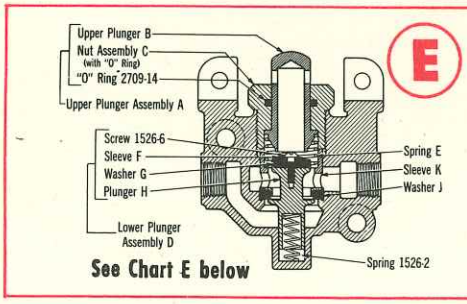
Parts for 1196W, 1196BW, 1255W, 1415W, 1415AW, 1888W, and 9586W Series Valves.



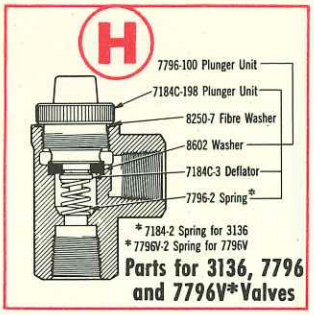
Parts for 8187 Valve



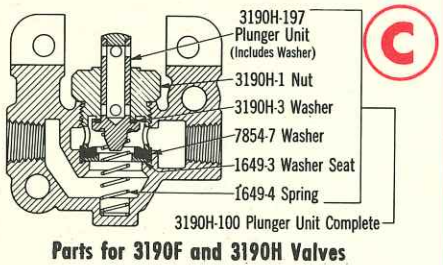
Parts for Valves Number 1649W, 1794W, 2178W, 2178BW



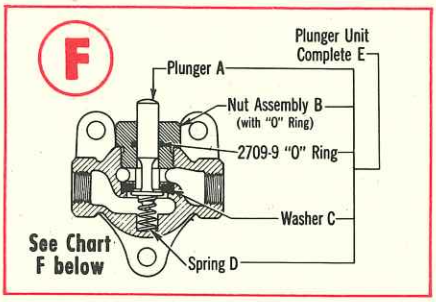
See Chart E below



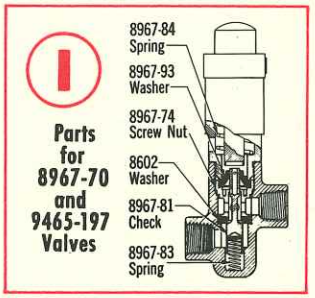
* 7184-2 Spring for 3136
* 7796V-2 Spring for 7796V
Parts for 3136, 7796 and 7796V* Valves



Parts for 3190F and 3190H Valves



See Chart F below



Parts for 8967-70 and 9465-197 Valves

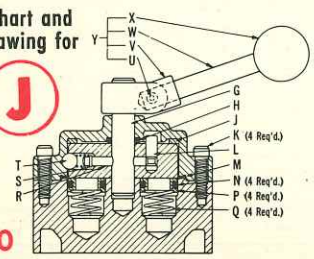
Schrader Number	A	B	C	D	E	F	G
1521W, 1521AW, 9264W, 9264BW 1524W, 1524BW, 1525W	7854-3 1524-3	7854W-90 1526W-90	2709-9 2709-14	7854-7 1526-7	9576-18 1526-2	None 1526-8	7854W-9 1524W-100

CHARTS FOR (A) (E) (F)

Schrader Number	A	B	C	D	E
8047W	8047-3	8047W-90	8047-7	9576-18	8632W-9
8632W	8047-3	8047W-90	8047-7	9576-18	8632W-9
7854W	7854-3	7854W-90	7854-7	9576-18	7854W-9
8831W	8831-3	8831W-90	8831-7	8831-8	8831W-9
9416AW	Internal Parts same as for 8632W.				
9416W	Internal Parts same as for 7854W.				

Schrader Number	A	B	C	D	E	F	G	H	J	K
2117W, 2117AW, 2117BW, 2117HW	2117W-198	2117-10	2117W-90	2117-197	2117-9	2117-5	2117-4	2117-3	2117-7	2117-8
1526W, 1526BW, 1527W	1526W-198	1526-10	1526W-90	1526-197	1526-9	1526-5	1526-4	1526-3	1526-7	1526-8

Chart and drawing for (J)

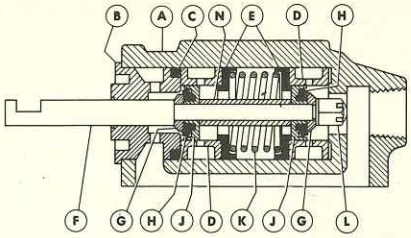


Schrader Number		Shaft G	"O" Ring H	Bearing J	Screw K	Stud L	Gasket M	"O" Ring N	Seal Ring P	Spring Q
3270	3270A	3230-5	2709-10	3230-4	3274-11	3230-8	3230-18	2709-9	3230-14	3230-9
3230	3230A	3230-5	2709-10	3230-4	3274-11	3230-8	3230-18	2709-9	3230-14	3230-9
3210	3210A	3210-5	2709-12	3210-4	3275-13	3210-7	3210-14	2709-15	3210-8	3210-9
3280	3280A	3210-5	2709-12	3210-4	3275-13	3210-7	3210-14	2709-15	3210-8	3210-9

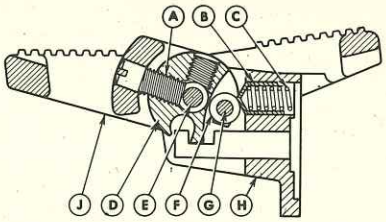
Schrader Number		Pin R	Spring S	Ball T	Screw U	Clamp V	Handle Shaft W	Knob X	Handle Ass'b'y Y
3270	3270A	3230-10	7796V-2	1007-4	3272-5	3230-6	3230-19	3230-20	3230-193
3230	3230A	3230-10	7796V-2	1007-4	3272-5	3230-6	3230-19	3230-20	3230-193
3210	3210A	3210-10	7796V-2	1007-4	3274-7	3210-13	3210-12	3322H-17	3210-197
3280	3280A	3210-10	7796V-2	1007-4	3274-7	3210-13	3210-12	3322H-17	3210-197

2, 3, 4-WAY VALVE REPLACEMENT PARTS

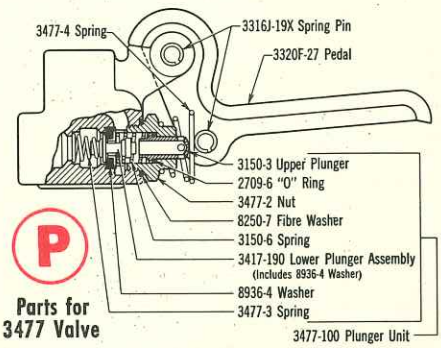
K See Chart K below



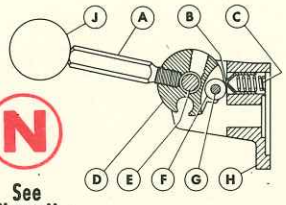
L See Chart L below



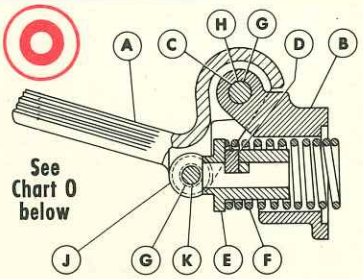
P Parts for 3477 Valve



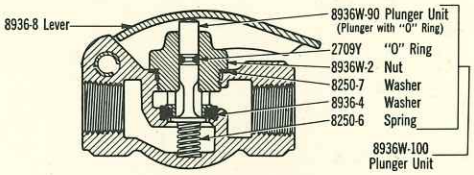
N See Chart N below



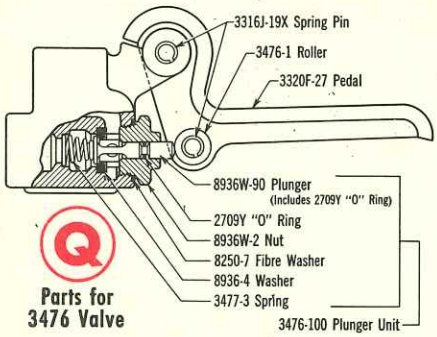
O See Chart O below



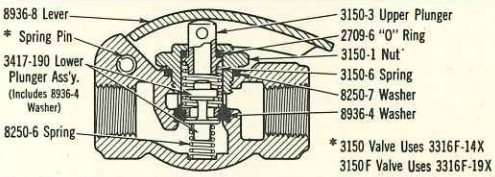
R Parts for 1019W and 8936W Valves



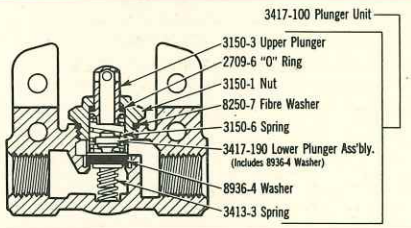
Q Parts for 3476 Valve



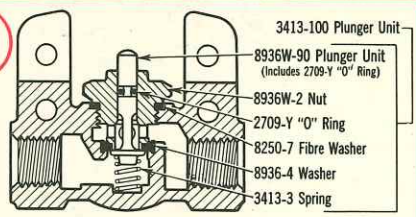
S Parts for 3150 and 3150F Valves



T Parts for 3417 Series Valves



U



Parts for 3413 Series Valves

CHART FOR (L)

Valve Used With	A Set Screw	B Detent	C Spring	D Disc	E Stud	F Roller	G Pin	H Bracket	J Pedal
3320FL	3320FL-2	3320H-18	3320H-20	3320H-13	3320FL-3	3320H-15	3320H-16	3320H-21	3320FL-1
3321FL	3320FL-2	3320H-18	3320H-20	3320H-13	3320FL-3	3320H-15	3320H-16	3320H-21	3320FL-1
3322FL	3322FL-2	3322H-18	3322H-20	3322H-13	3322FL-3	3322H-15	3322H-16	3322H-21	3322FL-1
3323FL	3322FL-2	3322H-18	3322H-20	3322H-13	3322FL-3	3322H-15	3322H-16	3322H-21	3322FL-1

For part numbers of valve units, see Chart K

CHART FOR (N)

Valve Used With	A Handle	B Detent	C Spring	D Disc	E Stud	F Roller	G Pin	H Bracket	J Knob
3320H	3320H-14	3320H-18	3320H-20	3320H-13	3320H-19	3320H-15	3320H-16	3320H-21	3320H-17
3321H	3320H-14	3320H-18	3320H-20	3320H-13	3320H-19	3320H-15	3320H-16	3320H-21	3320H-17
3322H	3322H-14	3322H-18	3322H-20	3322H-13	3322H-19	3322H-15	3322H-16	3322H-21	3322H-17
3323H	3322H-14	3322H-18	3322H-20	3322H-13	3322H-19	3322H-15	3322H-16	3322H-21	3322H-17

For part numbers of valve units, see Chart K

For Use With Valve No.	A Housing	B Retainer	C "O" Ring	D Spool	E Inlet Seal	F Rod	G Ring	H Outlet Seal	J Shell	K Spring	L Nut	N Sleeve	P Poppet Assembly	Screws†
3320 F, FL, H	3320-1	3320-3	2709-19	3320-4(2)	3320-9(2)	3320-8	3320-7(2)	3320-10(2)	3320-5(2)	3320-11	3348-1	3320-6	3320-198	8234-17 (4)
3321 F, FL, H	3321-1	3320-3	2709-19	3320-4(2)	3320-9(2)	3320-8	3320-7(2)	3320-10(2)	3320-5(2)	3320-11	3348-1	3320-6	3320-198	8234-17 (4)
3322 F, FL, H	3322-1	3322-3	2709-27	3322-4(2)	3322-9(2)	3322-8	3322-7(2)	3322-10(2)	3322-5(2)	3322-11	3348-5	3322-6	3322-198	3389-9A(4)
3323 F, FL, H	3323-1	3322-3	2709-27	3322-4(2)	3322-9(2)	3322-8	3322-7(2)	3322-10(2)	3322-5(2)	3322-11	3348-5	3322-6	3322-198	3389-9A(4)

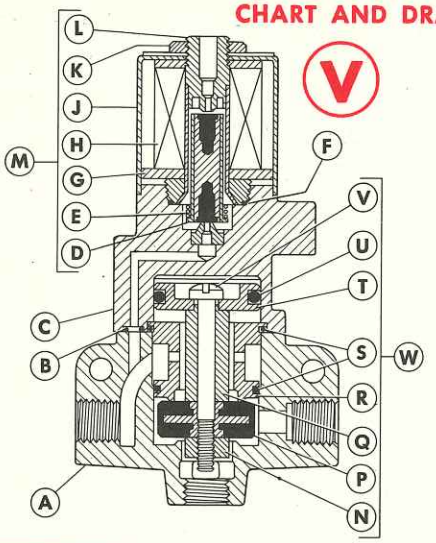
CHART FOR (K)
CHART FOR (O)

Valve Used With	A Pedal	B Pedal Bracket	C Pin	D Key	E Plunger	F Spring	G Retaining Ring	H Spring Washer	J Roller	K Pin
3320F	3320F-27	3320F-25	3320F-28	3320P-26	3320F-24	3320P-23	3364-7A(4)	3320F-31(2)	3320F-30(2)	3320F-32
3321F	3320F-27	3320F-25	3320F-28	3320P-26	3320F-24	3320P-23	3364-7A(4)	3320F-31(2)	3320F-30(2)	3320F-32
3322F	3322F-27	3322F-25	3322F-28	3322P-26	3322F-24	3322P-23	3364-8A(4)	3322F-31(2)	3322F-30(2)	3322F-32
3323F	3322F-27	3322F-25	3322F-28	3322P-26	3322F-24	3322P-23	3364-8A(4)	3322F-31(2)	3322F-30(2)	3322F-32

For part numbers of valve units, see Chart K

2, 3, 4 WAY VALVE REPLACEMENT PARTS

CHART AND DRAWING FOR V

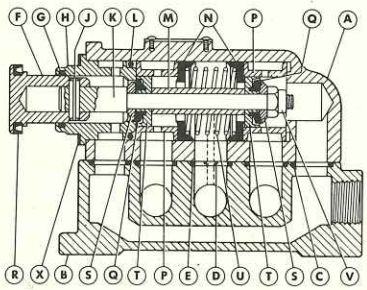


Schrader Number	N.P. Th'd.	A Body	B "O" Ring	C Pilot Body Assembly	D Plunger	E Spring	F Flange Seal	G Flux Plate	H Coil Only*	J Coil Housing	K Nut	L Sleeve Assembly
972S,SA,SB,T 982S,SA,SB,T	¼	972S-1	2709-1	972S-197	3455S-8	3455S-12	3455S-3	3455S-7	See	3455S-5	3455S-6	3455S-9
973S,SA,SB,T 983S,SA,SB,T	⅜	973S-1	2709-1	974S-197	3455S-8	3455S-12	3455S-3	3455S-7	Foot-	3455S-5	3455S-6	3455S-9
974S,SA,SB,T 984S,SA,SB,T	½	974S-1	2709-1	974S-197	3455S-8	3455S-12	3455S-3	3455S-7	note	3455S-5	3455S-6	3455S-9
976S,SA,SB,T 986S,SA,SB,T	¾	976S-1	2709-1	978S-197	3455S-8	3455S-12	3455S-3	3455S-7		3455S-5	3455S-6	3455S-9
978S,SA,SB,T 988S,SA,SB,T	1	978S-1	2709-1	978S-197	3455S-8	3455S-12	3455S-3	3455S-7		3455S-5	3455S-6	3455S-9

Schrader Number	N.P. Th'd.	M Solenoid Unit**	N Nut	P Seal	Q Spacer	R Retainer	S "O" Ring (2 Req'd)	T Piston	U "O" Ring	V Screw	W Poppet Assembly
972S,SA,SB,T 982S,SA,SB,T	¼	See	972S-6	972S-194	972S-5	972S-3	3454-12	972S-4	2709-19	3402-22B	972S-195
973S,SA,SB,T 983S,SA,SB,T	⅜	Foot-	974S-6	974S-194	974S-5	974S-3	3454-16	974S-4	2709-23	3389-25B	974S-195
974S,SA,SB,T 984S,SA,SB,T	½	note	974S-6	974S-194	974S-5	974S-3	3454-16	974S-4	2709-23	3389-25B	974S-195
976S,SA,SB,T 986S,SA,SB,T	¾		978S-6	978S-194	978S-5	978S-3	3454-29	978S-4	2709-27	3389-27B	978S-195
978S,SA,SB,T 988S,SA,SB,T	1		978S-6	978S-194	978S-5	978S-5	3454-29	978S-4	2709-27	3389-27B	978S-195

*3455S-10 Coil for 110V, 3455SA-10 Coil for 220V, 3455SB-10 Coil for 440V, 3455T-10 Coil for 12V
**3455S-196 Solenoid Unit for 110V, 3455SA-196 Solenoid Unit for 220V, 3455SB-196 Solenoid Unit for 440V, 3455T-196 Solenoid Unit for 12V

CHART AND DRAWING FOR W



Schrader Number	A Housing	B Sub-Base	C "O" Ring (2 Req'd)	D "O" Ring	E "O" Ring (3 Req'd)	F Piston	G "O" Ring	H Retainer	J Spring Pin	K Rod	L "O" Ring	M Sleeve
810P,S,SA,SB,T 852S,SA,SB,T	810P-1	810P-2	2709-10	2709-1	2709-7	3455P-2	2709-14	3455P-4	3316E-8X	3455P-3	2709-19	3320-6
3455P,S,SA,SB,T 825S,SA,SB,T	3320S-1	—	—	—	—	3455P-2	2709-14	3455P-4	3316E-8X	3455P-3	2709-19	3320-6
811P,S,SA,SB,T 853S,SA,SB,T	810P-1	811P-1	2709-10	2709-1	2709-7	3455P-2	2709-14	3455P-4	3316E-8X	3455P-3	2709-19	3320-6
3456P,S,SA,SB,T 826S,SA,SB,T	3321S-1	—	—	—	—	3455P-2	2709-14	3455P-4	3316E-8X	3455P-3	2709-19	3320-6
812P,S,SA,SB,T 854S,SA,SB,T	813P-1	812P-1	2709-14	2709-3	2709-14	3457P-2	2709-20	3457P-4	3316G-13X	3457P-3	2709-27	3322-6
3457P,S,SA,SB,T 827S,SA,SB,T	3322S-1	—	—	—	—	3457P-2	2709-20	3457P-4	3316G-13X	3457P-3	2709-27	3322-6
813P,S,SA,SB,T 855S,SA,SB,T	813P-1	813P-2	2709-14	2709-3	2709-14	3457P-2	2709-20	3457P-4	3316G-13X	3457P-3	2709-27	3322-6
3458P,S,SA,SB,T 828S,SA,SB,T	3323S-1	—	—	—	—	3457P-2	2709-20	3457P-4	3316G-13X	3457P-3	2907-27	3322-6

Schrader Number	N Inlet Seal (2 Req'd)	P Spool (2 Req'd)	Q Outlet Seal (2 Req'd)	R "U" Cup Packing	S Ring (2 Req'd)	T Shell (2 Req'd)	U Spring	V Lock Nut	Poppet Assembly	X Gasket	* Screw (4 Req'd)	** Screw (4 Req'd)
810P,S,SA,SB,T 852S,SA,SB,T	3320-9	3320-4	3320-10	3290-49	3320-7	3320-5	3320-11	3348-1	3455P-198	3455P-5	3402-8B	3389-9B
3455P,S,SA,SB,T 825S,SA,SB,T	3320-9	3320-4	3320-10	3290-49	3320-7	3320-5	3320-11	3348-1	3455P-198	3455P-5	3402-8B	—
811P,S,SA,SB,T 853S,SA,SB,T	3320-9	3320-4	3320-10	3290-49	3320-7	3320-5	3320-11	3348-1	3455P-198	3455P-5	3402-8B	3389-9B
3456P,S,SA,SB,T 826S,SA,SB,T	3320-9	3320-4	3320-10	3290-49	3320-7	3320-5	3320-11	3348-1	3455P-198	3455P-5	3402-8B	—
812P,S,SA,SB,T 854S,SA,SB,T	3322-9	3322-4	3322-10	3290-52	3322-7	3322-5	3322-11	3348-5	3457P-198	3457P-5	3389-9A	3430-9B
3457P,S,SA,SB,T 827S,SA,SB,T	3322-9	3322-4	3322-10	3290-52	3322-7	3322-5	3322-11	3348-5	3457P-198	3457P-5	3389-9A	—
813P,S,SA,SB,T 855S,SA,SB,T	3322-9	3322-4	3322-10	3290-52	3322-7	3322-5	3322-11	3348-5	3457P-198	3457P-5	3389-9A	3430-9B
3458P,S,SA,SB,T 828S,SA,SB,T	3322-9	3322-4	3322-10	3290-52	3322-7	3322-5	3322-11	3348-5	3457P-198	3457P-5	3389-9A	—

Parts F,G,H,J,K,L,M,N,Q,R,S,T,U,V and (1) Spool P comprise Poppet Assembly
* For attaching Actuating Units ** For attaching Sub-Base

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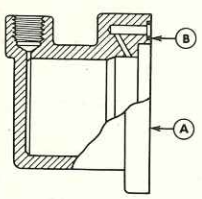

Schrader Number		A Pilot Housing	B "O" Ring
810 P	3455 P	3455P-1	2709-1
811 P	3456 P	3455P-1	2709-1
812 P	3457 P	3457P-1	2709-3
813 P	3458 P	3457P-1	2709-3

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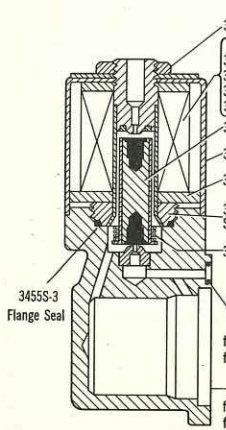
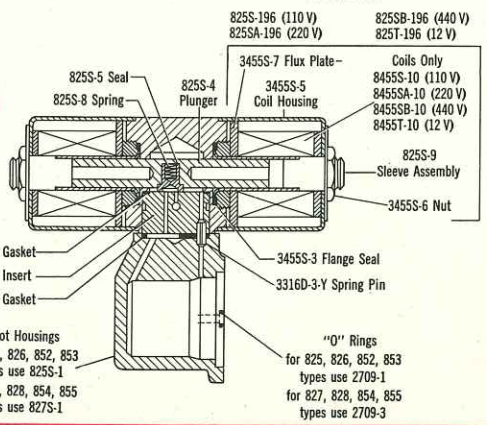


Solenoid Units
3455S-196 (110 V)
3455SA-196 (220 V)
3455SB-196 (440 V)
3455T-196 (12 V)

Parts for 810S and 3455S Series Valves

Z



NUMERICAL INDEX

Schrader
REG. U.S. PAT. OFF.

Schrader Number	Description	Page No.
	Dies for Ferrule Machines	15
	Hose Ferrules	14
395	Clevis	59
398	Clevis	59
560	Plastic Blow Gun	8
802FRL	Lub-Air-Ator	19
802FL	Filter Lubricator	21
802FR	Filter Regulator	21
802RL	Regulator Lubricator	21
803FRL	Lub-Air-Ator	19
803FL	Filter Lubricator	21
803FR	Filter Regulator	21
803RL	Regulator Lubricator	21
804FRL	Lub-Air-Ator	19
804FL	Filter Lubricator	21
804FR	Filter Regulator	21
804RL	Regulator Lubricator	21
805	Mounting Bracket	21
806-1	Adapters, Double Male	12
806FRL	Lub-Air-Ator	19
806FL	Filter Lubricator	21
806FR	Filter Regulator	21
806RL	Regulator Lubricator	21
808-1	Adapters, Double Male	12
808FRL	Lub-Air-Ator	19
808FL	Filter Lubricator	21
808FR	Filter Regulator	21
808RL	Regulator Lubricator	21
810P	Four-Way Valve	29
810S, SA	Four-Way Valve	32
810SB, T	Four-Way Valve	32
811P	Four-Way Valve	29
811S, SA	Four-Way Valve	32
811SB, T	Four-Way Valve	32
812P	Four-Way Valve	29
812S, SA	Four-Way Valve	32
812SB, T	Four-Way Valve	32
813P	Four-Way Valve	29
813S, SA	Four-Way Valve	32
813SB, T	Four-Way Valve	32
822H	Two-Way Valve	36
822M	Two-Way Valve	36
823H	Three-Way Valve	36
823M	Three-Way Valve	36
824H	Four-Way Valve	36
824M	Four-Way Valve	36
825S, SA	Four-Way Valve	31
825SB, T	Four-Way Valve	31
826S, SA	Four-Way Valve	31
826SB, T	Four-Way Valve	31
827S, SA	Four-Way Valve	31
827SB, T	Four-Way Valve	31
828S, SA	Four-Way Valve	31
828SB, T	Four-Way Valve	31
831	Rotating Joint	47
831F	Rotating Joint	47
832	Rotating Joint	47
832F	Rotating Joint	47
834	Rotating Joint	47
834F	Rotating Joint	47
852S, SA	Four-Way Valve	32
852SB, T	Four-Way Valve	32
853S, SA	Four-Way Valve	32
853SB, T	Four-Way Valve	32
854S, SA	Four-Way Valve	32
854SB, T	Four-Way Valve	32
855S, SA	Four-Way Valve	32
855SB, T	Four-Way Valve	32
972P	Three-Way Valve	39
972S, SA	Three-Way Valve	30
972SB, T	Three-Way Valve	30
973P	Three-Way Valve	39
973S, SA	Three-Way Valve	30
973SB, T	Three-Way Valve	30
974P	Three-Way Valve	39
974S, SA	Three-Way Valve	30
974SB, T	Three-Way Valve	30
976P	Three-Way Valve	39
976S, SA	Three-Way Valve	30
976SB, T	Three-Way Valve	30
978P	Three-Way Valve	39
978S, SA	Three-Way Valve	30
978SB, T	Three-Way Valve	30
982P	Three-Way Valve	39
982S, SA	Three-Way Valve	30
982SB, T	Three-Way Valve	30
983P	Three-Way Valve	39
983S, SA	Three-Way Valve	30
983SB, T	Three-Way Valve	30
984P	Three-Way Valve	39
984S, SA	Three-Way Valve	30
984SB, T	Three-Way Valve	30
986P	Three-Way Valve	39
986S, SA	Three-Way Valve	30
986SB, T	Three-Way Valve	30
988P	Three-Way Valve	39
988S, SA	Three-Way Valve	30
988SB, T	Three-Way Valve	30
1019W	Two-Way Valve	34
1054-12	Check Unit	10
1071	Spanner Wrench	48
1072	Spanner Wrench	48
1095-11	Coupler Adapter	10
1095-12	Check Unit	10
1096-11	Coupler Adapter	10
1097-11	Coupler Adapter	10
1098-11	Coupler Adapter	10
1105	Hose Coupling	12
1138	Air Line Strainer	22
1142	Check Valve	45
1142A	Check Valve	45
1142B	Check Valve	45
1196W	Three-Way Valve	25
1196BW	Three-Way Valve	24
1211	Hose Coupling	12
1223-13	Adapter	12
1255W	Three-Way Valve	35
1261-11	Coupler Adapter	10
1350-198	Adjustable Blow Gun Nose	9
1351-198	Adjustable Blow Gun Nose	9
1353-198	Adjustable Blow Gun Nose	9
1369-2	Union	59
1385-12	Check Unit	11
1415W	Three-Way Valve	26
1415AW	Three-Way Valve	27
1461-11	Coupler Adapter	10
1461-12	Check Unit	10
1462-11	Coupler Adapter	10
1462-12	Check Unit	10
1494	Cylinder Base Bracket	59
1501	Oil Resistant Hose	13
1521W	Two-Way Valve	26
1521AW	Two-Way Valve	27
1524W	Two-Way Valve	25
1524BW	Two-Way Valve	24
1525W	Two-Way Valve	26
1526W	Three-Way Valve	25
1526BW	Three-Way Valve	24
1527W	Three-Way Valve	26
1588W	Two-Way Pilot Valve	40
1588BW	Two-Way Pilot Valve	42
1589W	Three-Way Pilot Valve	40
1589B	Three-Way Pilot Valve	42
1590W	Two-Way Pilot Valve	40
1590BW	Two-Way Pilot Valve	42
1591W	Three-Way Pilot Valve	40
1591B	Three-Way Pilot Valve	42
1638C	Blow Gun	7
1649W	Two-Way Valve	26
1679	Adapter	12
1680	Adapter	12
1681	Adapter	12
1682	Adapter	12
1683	Adapter	12
1684	Adapter	12
1685	Adapter	12
1686	Adapter	12
1688	Adapter	12
1689	Adapter	12
1690	Adapter	12
1691	Adapter	12
1692	Hose Coupling	12
1693	Hose Coupling	12
1694	Hose Coupling	12
1695	Hose Coupling	12
1696	Hose Coupling	12
1697	Hose Coupling	12
1698	Hose Coupling	12
1699	Hose Coupling	12
1701	Adapter	12
1702	Adapter	12
1703	Adapter	12
1704	Adapter	12
1705	Adapter	12
1706	Adapter	12
1707	Adapter	12
1708	Adapter	12
1709	Adapter	12
1710	Hose Coupling	12
1711	Hose Coupling	12
1712	Hose Coupling	12
1714	Hose Coupling	12
1715	Hose Coupling	12
1716	Hose Coupling	12
1717	Hose Coupling	12
1718	Hose Coupling	12
1719	Hose Coupling	12
1745	Air Line Pressure Gauge	18
1746	Air Line Pressure Gauge	18
1751	Roller Cam	48
1752A	Air Line Filter, Water Trap	22
1755W	Blow Gun	7
1765A	Air-Operated Ferrule Machine	15
1794W	Two-Way Valve	35
1810-12	Check Unit	11
1878	Bracket and Lever Set	18
1888W	Three-Way Valve	33
1895	Blow Gun Nose	9
1929	Blow Gun	6
1929A	Blow Gun	6
1951	Hose Clamp	18
1952	Hose Clamp	18
1953	Hose Clamp	18
1955	Hose Clamp	18
2047	Coupler Adapter	11
2117W	Three-Way Valve	25
2117AW	Three-Way Valve	27
2117BW	Three-Way Valve	24
2117HW	Three-Way Valve	26
2123-11	Coupler Adapter	10
2177	Wrench	48
2178W	Two-Way Valve	25
2178BW	Two-Way Valve	24
2282	Blow Gun	6
2282A	Blow Gun	6
2400	"Tuck-Away"* Hose Reel	17
2600A	Hose Reel	17
2600C	Hose Reel	17
2600D	Hose Reel	17
2698	Cylinder Base Bracket	59
2700A	Hose Reel	17
2700C	Hose Reel	17
2700D	Hose Reel	17
3004	Cutout Valve	46
3021	Two-Way Pilot Valve	41
3022	Two-Way Pilot Valve	41
3023	Two-Way Pilot Valve	41
3024	Two-Way Pilot Valve	41
3025	Three-Way Pilot Valve	41
3026	Three-Way Pilot Valve	41
3027	Three-Way Pilot Valve	41
3028	Three-Way Pilot Valve	41
3029	Cam	48
3030	Clevis	59
3031	Clevis	59
3033	Cylinder Base Bracket	59
3037W-190	Knockout Set Less Cylinder	73
3047	Check Valve	45
3051W	Hydrodial Gauge	77
3052W	Hydrodial Gauge	77
3053W	Hydrodial Gauge	77
3054W	Hydrodial Gauge	77
3055W	Hydrodial Gauge	77
3056W	Hydrodial Gauge	77
3057W	Hydrodial Gauge	77
3058W	Hydrodial Gauge	77
3059W	Hydrodial Gauge	77
3060-12	Check Unit	11
3061-12	Check Unit	11
3062	Air Exhaust Muffler	44
3063	"Tuck-Away"* Hose Reel	17
3063A	"Tuck-Away"* Hose Reel	17
3063B	"Tuck-Away"* Hose Reel	17
3063H	"Tuck-Away"* Hose Reel	17
3063J	"Tuck-Away"* Hose Reel	17
3063K	"Tuck-Away"* Hose Reel	17
3070W	Two-Way Valve	46
3080-12	Check Unit	10
3081-12	Check Unit	10
3082	Air Line Filter	22
3084	Air Line Filter	22
3086	Cutout Valve	46
3087W	Two-Outlet Valve	46
3088	Air Line Filter	22
3091	Two-Way Pilot Valve	40
3092	Two-Way Pilot Valve	40,64
3093	Three-Way Pilot Valve	40
3094	Three-Way Pilot Valve	40
3101	Check Valve	45
3103	Three-Way Valve	36
3111	Double Acting Cylinder	54
3112	Double Acting Cylinder	54
3113	Double Acting Cylinder	54
3117	Cylinder Base Bracket	59
3118	Cylinder Base Bracket	59
3131	Single Acting Cylinder	52
3132	Single Acting Cylinder	52
3133	Single Acting Cylinder	52
3134	Check Valve	45
3136	Two-Way Valve	34
3138	Single Acting Cylinder	58
3142	Double Acting Cylinder	54
3143	Double Acting Cylinder	54
3147	Union	59
3150	Three-Way Valve	34
3150F	Three-Way Valve	34
3151	Single Acting Cylinder	53
3152	Single Acting Cylinder	53
3153	Single Acting Cylinder	53
3154	Check Valve	45
3165	Cam Spacer	48
3166	Cylinder Base Bracket	59
3168	Cylinder Base Bracket	59
3171	Double Acting Cylinder	54
3172	Double Acting Cylinder	54
3173	Double Acting Cylinder	54
3174	Double Acting Cylinder	54
3176	Double Acting Cylinder	54
3178	Double Acting Cylinder	54
3181	Double Acting Cylinder	54
3182	Double Acting Cylinder	54
3183	Double Acting Cylinder	54
3184	Double Acting Cylinder	54
3186	Double Acting Cylinder	54
3188	Double Acting Cylinder	54
3190F	Three-Way Valve	35
3190H	Three-Way Valve	26
3201	Spherical Bearing Rod End	59
3202	Spherical Bearing Rod End	59
3208W	Air Ejection Set	64
3209W	Air Ejection Set	64
3210	Four-Way Valve	33
3210A	Four-Way Valve	33
3212F	Two-Way Valve	37
3212FL	Two-Way Vave	37
3212H	Two-Way Valve	37
3212K	Two-Way Valve	37
3212M	Two-Way Valve	37
3213F	Three-Way Valve	37

*REG. U.S. PAT. OFFICE

Schrader Number	Description	Page No.
3213FL	Three-Way Valve	37
3213H	Three-Way Valve	37
3213K	Three-Way Valve	37
3213M	Three-Way Valve	37
3214F	Four-Way Valve	37
3214FL	Four-Way Valve	37
3214H	Four-Way Valve	37
3214K	Four-Way Valve	37
3214M	Four-Way Valve	37
3222	Double Acting Cylinder	55
3223	Double Acting Cylinder	55
3224	Foot Press Control Set	71
3225W	Foot Press Control Set	71
3230	Four-Way Valve	33
3230A	Four-Way Valve	33
3235	Press Control Set	67
3235-190	Press Control Set Less Cylinder	67
3236	Press Control Set	67
3237	Press Control Set	67
3247	Single Acting Cylinder	58
3249	Single Acting Cylinder	58
3250	Flow Control Valve	43
3250A	Flow Control Valve	43
3250B	Flow Control Valve	43
3250C	Flow Control Valve	43
3250D	Flow Control Valve	43
3251	Double Acting Cylinder	55
3252	Double Acting Cylinder	55
3253	Double Acting Cylinder	55
3254	Double Acting Cylinder	55
3256	Double Acting Cylinder	55
3258	Double Acting Cylinder	55
3260W	Air Ejection Set	73
3270	Four-Way Valve	33
3270A	Four-Way Valve	33
3276	Clevis	59
3277	Clevis	59
3278	Clevis	59
3280	Four-Way Valve	33
3280A	Four-Way Valve	33
3281	Double Acting Cylinder	55
3282	Double Acting Cylinder	55
3283	Double Acting Cylinder	55
3284	Double Acting Cylinder	55
3286	Double Acting Cylinder	55
3288	Double Acting Cylinder	55
3291	Double Acting Cylinder	55
3292	Double Acting Cylinder	55
3293	Double Acting Cylinder	55
3295	Press Control Set	67
3295-188	Cylinder & Exhaust Valve Asb'ly	67
3295-190	Press Control Set Less Cylinder	67
3296	Press Control Set	67
3297	Press Control Set	67
3298W	Machine Control Set	69
3299W	Machine Control Set	69
3318	Union	59
3320BP	Base Plate	29
3320F	Four-Way Valve	28
3320H	Four-Way Valve	28
3320FL	Four-Way Valve	28
3321F	Four-Way Valve	28
3321H	Four-Way Valve	28
3321FL	Four-Way Valve	28
3322BP	Base Plate	29
3322F	Four-Way Valve	28
3322H	Four-Way Valve	28
3322FL	Four-Way Valve	28
3323F	Four-Way Valve	28
3323H	Four-Way Valve	28
3323FL	Four-Way Valve	28
3332	Air Line Filter	20
3333	Air Line Filter	20
3334	Air Line Filter	20
3336	Air Line Filter	20
3338	Air Line Filter	20
3340	Quick Exhaust Valve	44
3340T	Quick Exhaust Valve	44
3346	Air Exhaust Muffler	44
3351A	Air Clamping Cylinder	61
3351B	Air Clamping Cylinder	61
3351C	Air Clamping Cylinder	61
3352A	Air Clamping Cylinder	61
3352B	Air Clamping Cylinder	61
3353A	Air Clamping Cylinder	61
3353B	Air Clamping Cylinder	61
3362	Double Acting Cylinder	56
3363	Double Acting Cylinder	56
3371	Double Acting Cylinder	56
3372	Double Acting Cylinder	56
3373	Double Acting Cylinder	56
3374	Double Acting Cylinder	56
3376	Double Acting Cylinder	56
3378	Double Acting Cylinder	56
3381	Double Acting Cylinder	56
3382	Double Acting Cylinder	56
3383	Double Acting Cylinder	56
3384	Double Acting Cylinder	56
3386	Double Acting Cylinder	56
3388	Double Acting Cylinder	56
3391	Double Acting Cylinder	56
3392	Double Acting Cylinder	56
3393	Double Acting Cylinder	56
3394	Air Press	74,75
3395	Air Press	74,75
3396	Air Press	74,75
3397	Air Press	74,75
3413	Two-Way Valve	25
3414	Two-Way Valve	27
3415	Two-Way Valve	24
3416	Two-Way Valve	26
3417	Three-Way Valve	25
3418	Three-Way Valve	27
3419	Three-Way Valve	24
3420	Three-Way Valve	26
3421	Double Acting Cylinder	57
3422	Double Acting Cylinder	57
3423	Double Acting Cylinder	57
3424	Double Acting Cylinder	57
3426	Double Acting Cylinder	57
3428	Double Acting Cylinder	57
3431	Double Acting Cylinder	57
3432	Double Acting Cylinder	57
3433	Double Acting Cylinder	57
3434	Double Acting Cylinder	57
3435	Oil Resistant Hose	13
3436	Double Acting Cylinder	57
3438	Double Acting Cylinder	57
3442	Double Acting Cylinder	57
3443	Double Acting Cylinder	57
3451A	Air Clamping Cylinder	61
3451B	Air Clamping Cylinder	61
3452A	Air Clamping Cylinder	61
3452B	Air Clamping Cylinder	61
3453A	Air Clamping Cylinder	61
3453B	Air Clamping Cylinder	61
3455S, SA	Four-Way Valve	31
3455SB, T	Four-Way Valve	31
3455P	Four-Way Valve	29
3456S, SA	Four-Way Valve	31
3456SB, T	Four-Way Valve	31
3456P	Four-Way Valve	29
3457S, SA	Four-Way Valve	31
3457SB, T	Four-Way Valve	31
3457P	Four-Way Valve	29
3458S, SA	Four-Way Valve	31
3458SB, T	Four-Way Valve	31
3458P	Four-Way Valve	29
3460	Guide Assembly	74
3462	Air Pressure Regulator	20
3462B	Air Pressure Regulator	20
3462BG	Air Pressure Regulator	20
3462G	Air Pressure Regulator	20
3463	Air Pressure Regulator	20
3463B	Air Pressure Regulator	20
3463BG	Air Pressure Regulator	20
3463G	Air Pressure Regulator	20
3464	Air Pressure Regulator	20
3464B	Air Pressure Regulator	20
3464BG	Air Pressure Regulator	20
3464G	Air Pressure Regulator	20
3466	Air Pressure Regulator	20
3466B	Air Pressure Regulator	20
3466BG	Air Pressure Regulator	20
3466G	Air Pressure Regulator	20
3468	Air Pressure Regulator	20
3468B	Air Pressure Regulator	20
3468BG	Air Pressure Regulator	20
3468G	Air Pressure Regulator	20
3471	Double Acting Cylinder	57
3472	Double Acting Cylinder	57
3473	Double Acting Cylinder	57
3475	Quick Exhaust Valve	44
3476	Two-Way Valve	35
3477	Three-Way Valve	35
3479W	Hydraulic Gauge	76
3480W	Hydraulic Gauge	76
3481	Hose Reel Unit	16
3481A	Hose Reel Unit	16
3482	Air Line Lubricator	20
3483	Air Line Lubricator	20
3484	Air Line Lubricator	20
3485	Hose Reel Unit	16
3485A	Hose Reel Unit	16
3486	Air Line Lubricator	20
3487	Tamper Proof Cover	21
3488	Air Line Lubricator	20
3495	Hose Coupling	12
3496	Hose Coupling	12
3497	Hose Coupling	12
3498	Hose Coupling	12
5111	Ferrule Contracting Machine	15
5113	Ferrule Contracting Machine	15
5617	Hose Coupling	12
6360	Hose Coupling	12
6361	Hose Coupling	12
6362	Hose Coupling	12
6363	Hose Coupling	12
6520	Hose Coupling	12
7184-8	Blow Gun Nose	9
7184C	Blow Gun	7
7184AC	Blow Gun	7
7640	Hose Coupling	12
7641	Hose Coupling	12
7642	Hose Coupling	12
7643	Hose Coupling	12
7673	Hose Repair Coupling	12
7674	Hose Repair Coupling	12
7675	Hose Repair Coupling	12
7676	Hose Repair Coupling	12
7771	Hose Coupling	12
7796	Two-Way Valve	8,34
7796V	Two-Way Valve	34
7854W	Two-Way Valve	34
7866	Lever	34
7943	Hose Coupling	12
7999	Adapter	12
8047W	Two-Way Valve	34
8050-11	Coupler Adapter	11
8050-12	Check Unit	11
8051-11	Coupler Adapter	11
8052-12	Check Unit	11
8095	Hose Coupling	12
8187	Three-Way Valve	34
8204	Adapter	12
8205	Adapter	12
8206	Adapter	12
8207	Adapter	12
8208	Adapter	12
8278-11	Coupler Adapter	11
8314W	Hydraulic Gauge	76
8315W	Hydraulic Gauge	76
8316W	Hydraulic Gauge	76
8317W	Hydraulic Gauge	76
8318W	Hydraulic Gauge	76
8319W	Hydraulic Gauge	76
8320W	Hydraulic Gauge	76
8624-11	Coupler Adapter	10
8632W	Two-Way Valve	34
8724	Blow Gun Nose	9
8726	Blow Gun Nozzle	9
8785W	Blow Gun	7
8785AW	Blow Gun	7
8787-11	Coupler Adapter	11
8788-11	Coupler Adapter	11
8831W	Two-Way Valve	34
8854W	Hydraulic Gauge	76
8855W	Hydraulic Gauge	76
8856W	Hydraulic Gauge	76
8857W	Hydraulic Gauge	76
8858W	Hydraulic Gauge	76
8859W	Hydraulic Gauge	76
8860W	Hydraulic Gauge	76
8862W	Hydraulic Gauge	76
8936W	Two-Way Valve	8,34
8937AB	Spray Gun	8
8937B	Spray Gun	8
8937B-12	Spray Gun Nozzle	8
8948	Hose Coupling	12
8953W	Blow Gun	8
8967-70	Three-Way Valve	46
8971	Blow Gun Nose	9
8972	Blow Gun Nose	9
8973	Blow Gun Nose	9
8974A	Adjustable Air Director	64,73
8990A	Adjustable Air Director	73
9000	Vise Type Ferrule Tool Set	18
9001	Vise Type Ferrule Tool	18
9002	Vise Type Ferrule Tool	18
9003	Vise Type Ferrule Tool	18
9010	Vise Type Ferrule Tool	18
9014AB	Spray Gun	8
9014B	Spray Gun	8
9111W	Hydraulic Gauge	76
9114W	Hydraulic Gauge	76
9115W	Hydraulic Gauge	76
9133	Hose Coupling	12
9134	Hose Coupling	12
9264W	Two-Way Valve	25,64,65
9264BW	Two-Way Valve	24,64,65
9265S	Roller Tripper	48,64,65
9274	Adjustable Cam	48,64,65
9278	Cam	48
9312A	Adjustable Valve Bracket	48,64,65
9314S	Roller Tripper	48
9326	Blow Gun	6
9326-197	Blow Gun Less Nose	6
9326A	Blow Gun	6
9326A-197	Blow Gun Less Nose	6
9343A	Adjustable Valve Bracket	48,64,65
9351W	Air Ejection Set	65
9355W	Air Ejection Set	65
9409ABW	Two-Way Pilot Valve	42
9416W	Two-Way Valve	35
9416AW	Two-Way Valve	35
9465-197	Three-Way Valve	46,67
9534	Air Line Strainer	22,64
9549	Adjustable Cam	48
9586W	Three-Way Valve	33
9586AW	Three-Way Valve	33
9586BW	Three-Way Valve	33
9586CW	Three-Way Valve	33
9586DW	Three-Way Valve	33
9586EW	Three-Way Valve	33
9587	Oil Resistant Hose	13
9612BW	Three-Way Pilot Valve	42
9616	Oil Resistant Hose	13
9617	Oil Resistant Hose	13
9633	Hose Coupling	12
9634	Hose Coupling	12
9636BW	Three-Way Pilot Valve	42
9637BW	Two-Way Pilot Valve	42
9661-8	Blow Gun Nose	9
9662	Hose Coupling	12
9663	Hose Coupling	12

- The air rates and the power charts in this catalog are based on generally accepted figures in use today. They are furnished for convenience, quick reference, and approximate calculations only. Exact computation of air consumption should be specially requested.
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- The Schrader Company warrants that its products are thoroughly tested and are free from defects in workmanship and material. The Company makes no other warranty, express or implied.
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- Upon request, Schrader engineering facilities will assist in planning for the most efficient use of air, and in selecting the products best suited to a given application.
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